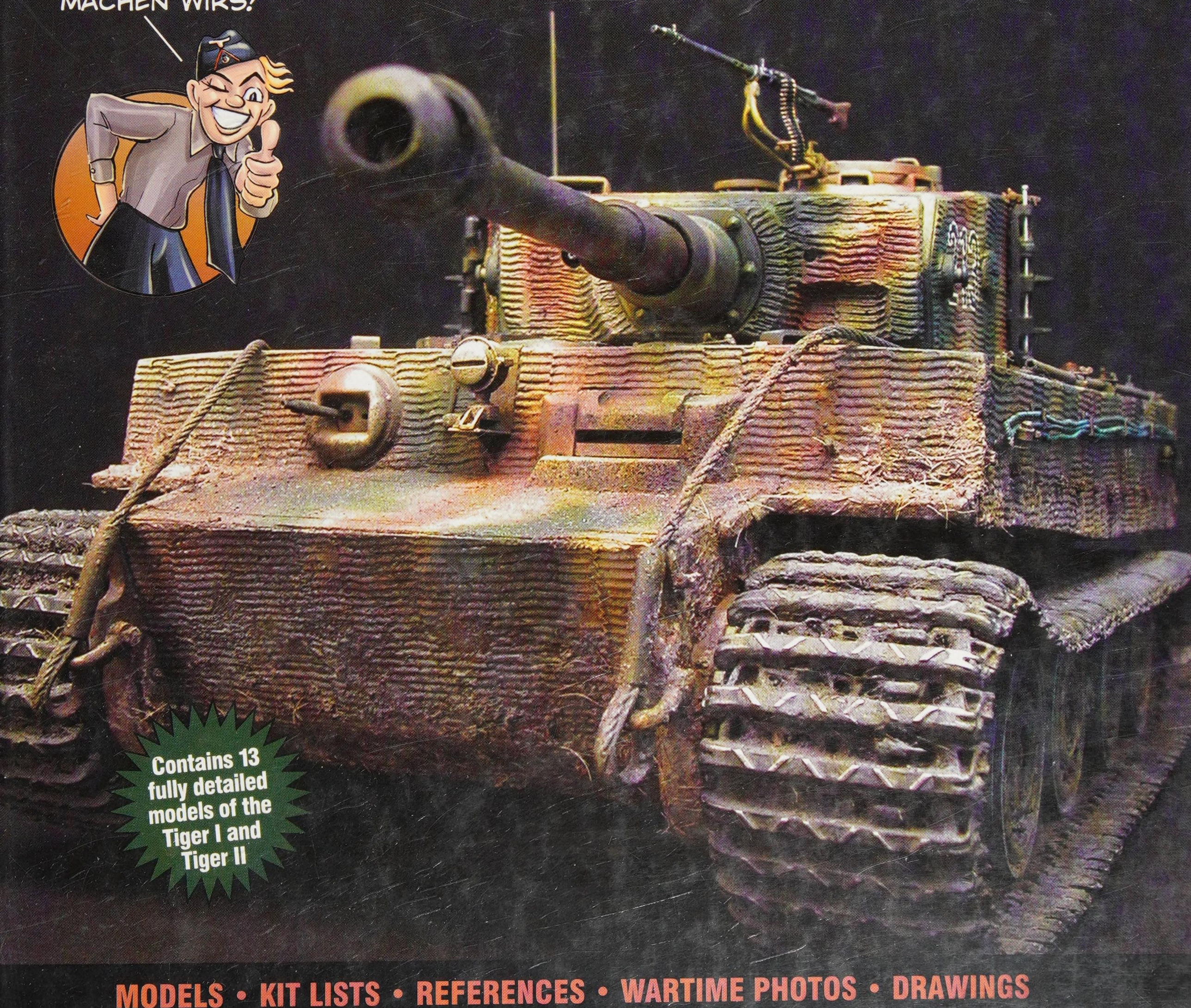
Military Miniatures in Review presents:

THE MODELER'S GUIDE TO THE

Tiger Tank

A complete and comprehensive guide to modeling the Tiger I and Tiger II in 1/35th scale



Contains 13 fully detailed models of the Tiger I and Tiger II

MODELS • KIT LISTS • REFERENCES • WARTIME PHOTOS • DRAWINGS

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A complete and comprehensive guide to modeling the Tiger I and Tiger II in 1/35th scale

by
Patrick A. Stansell
Editor, Military Miniatures in Review

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ACKNOWLEDGEMENTS

I found out pretty quickly (but not quickly enough) that you don't get a book like this done by yourself. And so, I'd like to thank the academy... But seriously, as the kids say, I'd like to give a shout out to my peeps (people) and give them their props (proper recognition). The following is a brief description of my gratitude for all my peep's hard work.

All of the models were pre-built in some fashion. Basic plastic work like trimming, filling, sanding, clipping, gluing and shaping. Occasionally, this meant even more than that. Joe Porter, Adam Gray, Jim Hensley and Brian "Vienna Workshop" Keough, all got in on the action in varying degrees (Brian's personal collection of unbuilt Tigers also took a major beating).

Mike "Fish" Kalbfleisch built and painted an entire model (the Tiger II prototype) and was the first one to completely finish a kit. He did a fair amount of extra work, including a few things that really should become master patterns. Mike sits on the flight deck of a C-141 for a living and he was nice enough to deliver the kit on his aircraft while laying over in Ft. Lauderdale. Talk about express delivery!

The sales staff at Tamiya America went above and beyond the call of duty to round up all of the various kits that were needed for this project. Especially helpful were Christina Riamondi (now Christina Spiegler), Tracey Hohwart and, of course, Ken Hirai. All of this plastic was provided way before they even knew there actually would be a book. Domo Harigato!

Bill Miley of Chesapeake Model Designs, the U.S. Importer of Royal Models and Friulmodellismo tracks, demonstrated extraordinary patience with me while I continually groveled for samples of Royal and Friul. Bill's contribution was a major one and I have him to thank for much of the detailing extravagance seen in this book.

Michael Szapowalow of Air Connection (the North American importer of Aber) was super helpful in assisting us in obtaining the huge amount of Aber brass that was gobbled up in this project. The owner of Aber, Waclaw Peszko, also forwarded us a few items directly from Poland.

Wood Vondracek, the owner of Archer Fine Transfers, spent many helpful hours assisting me in assembling the dry transfers used in the book. Many of these were already on his existing sheets. He not only put all this together, but he tolerated my own artwork and gave me credit on the sheets way out of proportion to my actual efforts. If you are interested in purchasing these sheets, they are called the "Tiger Mix," in his catalog. All but one of the schemes were used in this book.

Lutz Fellmuth, of New Connection provided several scale miles of his remarkable double braided tow cable for this project.

All of the line drawings seen in this book were submitted as originals. These were then scanned. If an historical error was discovered, the corrections were made electronically. This is extremely finicky work and our one time staff artist, Dave Berns, went at them with a vengeance. Dave is a master of the "graphics tablet," a scary device which allows one to draw right in the computer. The tablet also provides the ability to manipulate images in a very specific way. Dave was able to make all these corrections seamlessly and retain the original integrity of the drawings. Dave also used his talents to render the "Winky" illustration used on all of our chapter introductions. Winky is actually based on one of the original drawings found in the *Tiger Fibel* operator's manual from the war.

Scott Eble, who did nearly all the Tiger II drawings, worked with me even though I had virtually no budget. Scott is a very talented and capable professional art director. I can't imagine what the going rate would be for all the great work he did. Luckily, his weak spot turned out to be models!

Mike Olive was very generous in letting us sample the voluminous J.J. Fedorowicz photo archive. While others were very stingy with their images, Mike was only too happy to help out.

Tom Jentz and Hilary Doyle, authors and creators of the original Schiffer Tiger series deserve a major nod. Their two books, *Germany's Tiger Tanks D.W. to Tiger I: Design Production and Modification*, and *Germany's Tiger Tanks VK45.02 to Tiger II: Design Production and Modification* are the definitive works on the subject. Both books reflect years and years of careful and meticulous research. Don't build a Tiger without them (or this book). Mr. Jentz was also kind enough to lend us two images from his collection.

And last, I'd like to thank my old buddy (I mean I've known him the longest, not that he's old), Al the "Dark Hobby Master." Al's assistance in finishing this project went way beyond just the friendly pat on the back—or even the swift kick in the ass. His encouragement and enthusiasm kept me moving forward, even if it was only slowly!

INTRODUCTION, OR WHAT HAPPENS WHEN YOU WANT TO MAKE A BOOK

So just why is German armor so popular? I've always wondered this. It seems that better than half the armor enthusiasts out there are into the German stuff. Perhaps it's because all of the initial German armor designs, including the Tiger, had a very distinctive look. They pretty much just wrapped the engine and drive train in armor—right up and over the front and top, with just enough room for the driver's head. This concept can be traced from the Panzer I, II, III and right through to the Tiger. It wasn't until the Panther that the Germans finally realized they could slant an armored plate.

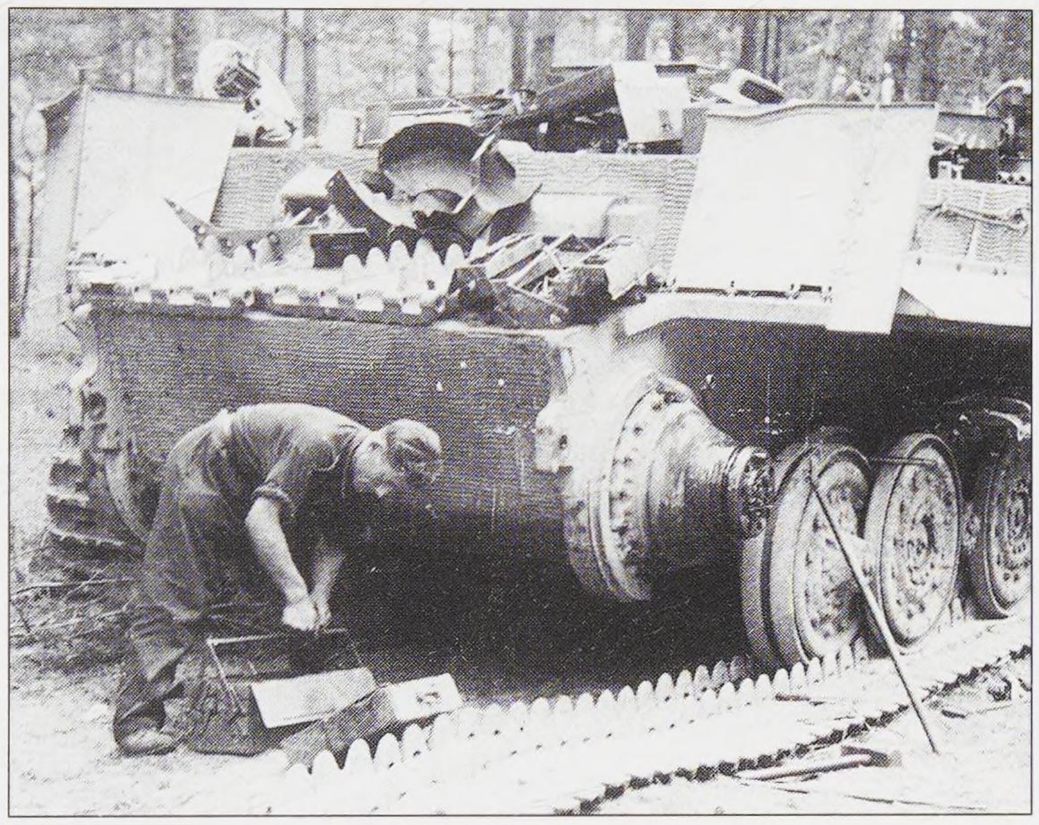
I also think that much of our infatuation with German stuff can be specifically attributed to the actions of one man: Mr. Tamiya. After all, he was the one who splashed all that amazing artwork all over the front of his model boxes. This is more or less what did it for me. I remember riding my bicycle to Sears (of all places) in the mid-seventies to ogle the latest Tamiya packaging. One of my all time favorites was the original 1969 1/35th scale Tiger kit. This excitement was further compounded by the presence of the 1/25th scale kit and its enormous box and artwork. All this latent love stuck with me and I even attempted to resurrect that old 1/35th scale kit with the help of a On the Mark brass set when I took up modeling again in the mid-eighties. But my Tiger fever really started to take form when the Big T finally released their brand new version in 1988. This was really a breakthrough kit for Tamiya. It was the first newly tooled German subject from them since the 250 halftracks! (This kit is 35146, while the SdKfz. 7 with the 3.7cm gun is 35144. However, the Tiger was actually released first). The 1988 Tiger was the first of what would become five Tiger I kits, plus one or two limited release versions.

The concept for this book actually originated with another subject, the Sherman. When we first started working that project (*The Modeler's Guide to the Sherman*), we conceived a guidebook that would lead the modeler all the way through the history of the tank in both real and scale form. Due to the enormity of the subject, we found it necessary to limit it a bit in scope.

When I began thinking about this project, I tried not to put too many limits on its range of coverage. However, rendering the kind of details that modelers like to see can be a formidable task from both a time and fiscal point of view. Also, a considerable amount of this kind of thing had already been done. *The Achtung Panzer series* from the Japanese publisher Artbox had already visited this subject and others in a very thorough way.

A couple of things changed my thinking on this. The first was the accumulated works of Tom Jentz and Hilary Doyle. Working from original documents over a number of years, they were able to piece the entire story of the Tiger I and II together in words and scale drawings. Their two volumes on the Tiger I and Tiger II truly tell the whole production story of these vehicles for the very first time. Another author, Wolfgang Schneider, created an amazing tapestry of the Tiger's deployment in his two books, *Tigers in Combat I and II*. The core of these books was their detailed combat diaries. Using all these books together, it is possible to mark production dates and correlate them with specific units and time frames. All this information enabled me to create very specific models representing very specific time frames and essentially tell the story of the tank in plastic.

Meanwhile, unbeknownst to me, a Japanese illustrator was putting his own pieces of the puzzle together. Mituo Terada was documenting all of the details that he could derive from the many available published photos. He created over 250 original illustrations of the Tiger I, all without the benefit of the Jentz books, original documentation or the German language—a fairly amazing accomplishment. Best of all, he was willing to work with us to help bring our project to fruition.



I also lucked out in finding an extremely talented local illustrator who happened to be a Tiger fan. He was nice enough to tackle all the Tiger II drawings and did a terrific job.

In order to double check all the drawing work and ensure that it matched all of the current Jentz and Doyle research, I called on noted armor historian Bruce Culver. Bruce pored over the drawings, organizing them, making minor corrections and creating the accompanying text—hopefully with a somewhat fresh perspective. Hey, we were making a book!

Meanwhile, back at the models

Using all of the above-mentioned criteria, I selected 13 modeling concepts, all based around available products. I selected models that I thought would represent the Tiger at interesting times during its production. I also wanted to depict models that maybe you don't see everyday, that whole obsession with Normandy wears me out sometimes! For example, the very first Tiger to see service is depicted, plus both the prototype Tiger I and Tiger II. I felt that the scope of this book should just be the gun tank, so there are no derivatives here, like the Sturmtiger, Elephant or the Jagdtiger. I consider those completely different subjects (and so did the Germans). These will be visited in future publications.

The only significant oddball in this book is the Tiger P. This baby was the Tiger's closest living relative during the war and it did make it into combat.

I should mention that all of the models, except that one, are Tamiya kits. This is somewhat based on the fact that they were the ones who started it all, way back in 1969. I also feel that they still make the best Tiger I kit out there (in spite of a few flaws). As far as the Tiger II is concerned, they are (currently) the only game in town.

I endeavored to use as many of the available aftermarket accessories and products as possible on all of the models. One of the lesser objectives of a book like this is to illustrate the many, many modeling possibilities. You may not ever need this information, but it'll be here if you do!

To meet this objective, I pored over hundreds of products, both good and bad. I have attempted to use the most beneficial of these in the following pages. I tried to make this as diverse as possible, but I do lean toward my favorites (hey, I gotta get the thing done, right?). Aber and Royal pop up frequently and Friulmodellismo is also visited regularly.

To describe all this, I opted for a diary style. There was so much detail here, I ended up referring to it as a "combat diary." These pages cover the basic construction of all the details. I made my best effort to describe everything that I did, in as much detail as possible. In some cases, this ran into several pages, while others were much shorter. To make things a little easier to understand, I broke out the repetitive details into a separate general detailing section. I was a little surprised to find out that the Tamiya Tiger I kit needed a bit of work to get it up to standard. This is made all the more obvious when comparing it to their Tiger II kit. This is a much more current model from a technological point of view.

Since each model is based (more or less) on an actual tank, I describe all the finishing details in the color section. There are two full pages of color photos for each tank and a description of the markings and unit.

Like the Sherman title, I have also included a long list of kits and products. I guess you could think of this as a "kit bibliography." It uses the style that was established with the *Armor Modeler's Guide to the Universe*.

The last section of the book is devoted to the actual bibliography. This contains all of the references I could dig up on the Tiger I and Tiger II. It's offered in the book review format used in MMiR.

Well, that about sums it up. I hope you enjoy this book as much as I enjoyed putting it all together. Just don't ask me to build another Tiger anytime soon!

Pat Stansell
Delray Beach, 2003

The Tiger tank: A historical perspective

The Tiger tank family stands as a true legend in tank development. At times assumed by its adversaries to have almost supernatural abilities, and widely successful as a strategic and tactical weapon on the battlefield, the Tiger dominated the armor war in the mid-war period and even to the last remained a dangerous and capable foe. The design and use of the Tiger series, Tiger I and Tiger II, resulted from the development of German armor doctrine, a process that had begun during the last year of World War I and continued in its refinement until Germany's defeat in May 1945. Indeed, the refinement of armored fighting vehicle doctrine has continued to the present day.

Tiger: concept and development

The requirement for a heavy "breakthrough" tank had been a consistent theme of German armor doctrine from the end of World War I. The breakthrough tank came to be considered as a strategic weapon, dominating the battlefield to give the German forces support that could punch through enemy front line positions and provide long range covering fire against strong points, machine guns, mortars and forward artillery. Such a tank could also mean a long-range defense against enemy tanks, keeping hostile armor well away from front line assault troops. Developments in automotive technology were needed to build a true breakthrough heavy tank. Engines had to be more powerful, transmissions stronger and more reliable, suspensions better designed and more efficient, and armor fabrication methods had to be improved.

In addition, advances in other nations' tank development affected the requirements for a heavy tank. In particular, the French army was designing several new vehicles, including the heavily armored Char B and Char C, with thick armor and in the Char B, a 75mm gun in a hull sponson, the heaviest armament of the period. The Germans eventually had great difficulty destroying these vehicles with the tank-mounted guns of the 1940 period.

The idea of Germany building a 30-ton heavy tank first appeared in 1935 in response to the development of the French Char 2C and other heavy tanks. Requirements included a higher velocity 7.5cm main gun and armor of at least 20mm thickness. The design top speed was 35 kph.

The German D.W.1, the first prototype, was made of mild steel 50mm thick on the front, sides and rear. The deck and bottom plates were 20mm thick. The suspension used torsion bars supporting six pairs of rubber-tired roadwheels on each side. The steering system was the Cletrac type, also used on a number of French vehicles. The engine was a 12-cylinder Maybach HL120 of 280hp. The tracks were the lubricated needle bearing type used on the half-track artillery tractors.

The D.W.2 was similar to the first prototype. There were a number of automotive improvements and revised designs for the steering and final drives, torsion bars and tracks. Krupp built a prototype cast iron turret mounting the 7.5cm L/24 short gun installed in the PzKpfw IV. The turret had 50mm thick front, sides and rear, a 20mm thick mantlet and a 15mm thick roof. Henschel tested both the D.W. 1 and 2, but further developments made them obsolete.

The follow-on was the VK 30.01 (30-ton experimental vehicle), which also carried 50mm armor on all sides. The deck plate was increased to 25mm thickness. A Maybach six-cylinder HL116 engine of 300hp provided a good power to weight ratio. To better carry the weight of 30 tons, the suspension was redesigned with two extra (seven) torsion bar stations on each side. To keep the chassis length as short as possible, the roadwheels were interleaved. Three rubber-tired return rollers carried the upper track run. The specification called for the same 7.5cm L/24 gun as for the D.W. vehicles, as it was felt that a larger gun would require reducing the armor to meet the weight requirement. The armor requirement was to protect against the 3.7cm antitank gun. Krupp again designed the turret, which carried 50mm armor on all sides. The official designation for this prototype was "PzKpfw VI (7.5cm)," but both "D.W." and "VK 30.01" were also used.

Three VK 30.01 chassis prototypes were built and tested by Henschel. In 1942, four O-series chassis were built and delivered, and Krupp delivered four turrets. After several unsuccessful attempts to improve the armament to more effective levels, six of eight completed turrets were converted as "Panzerstellung" (fixed emplacement turrets). Two of the VK 30.01 chassis were converted to carry the 12.8cm K L/61 antitank gun as self-propelled mounts and used on the Russian Front in service trials.

The progenitor of the Henschel version of the Tiger tank was the VK 36.01, ordered in 1940 and intended to mount a 10.5cm L/28 short gun in a new turret. The VK 36.01 was built on the experience of the D.W.1 and 2 and the VK 30.01 prototypes, and was designated "D.W. (VK 36.01)." The design weight was 36 tons. Initially the concept of the VK 36.01 was the same as the older designs, an even heavier breakthrough tank mounting a

Opposite page: German Minister of Armaments Albert Speer is seen here test driving the VK36.01. This was the only chassis to be assembled by Henschel. **Above:** The VK36.01 parked near Friedrichshafen with Lake Constance in the background. (Walter J. Speilberger via Jentz) **Below:** The original Fgst.Nr. V1. This vehicle was completed in April 1942 and this photo clearly shows the "Vorpanzer" folding skirt. This could be lowered in front of the tank to protect the tracks. (IWM)

bigger gun to destroy enemy armor and fortified ground positions. It was the next logical step in the search for an effective breakthrough weapon.

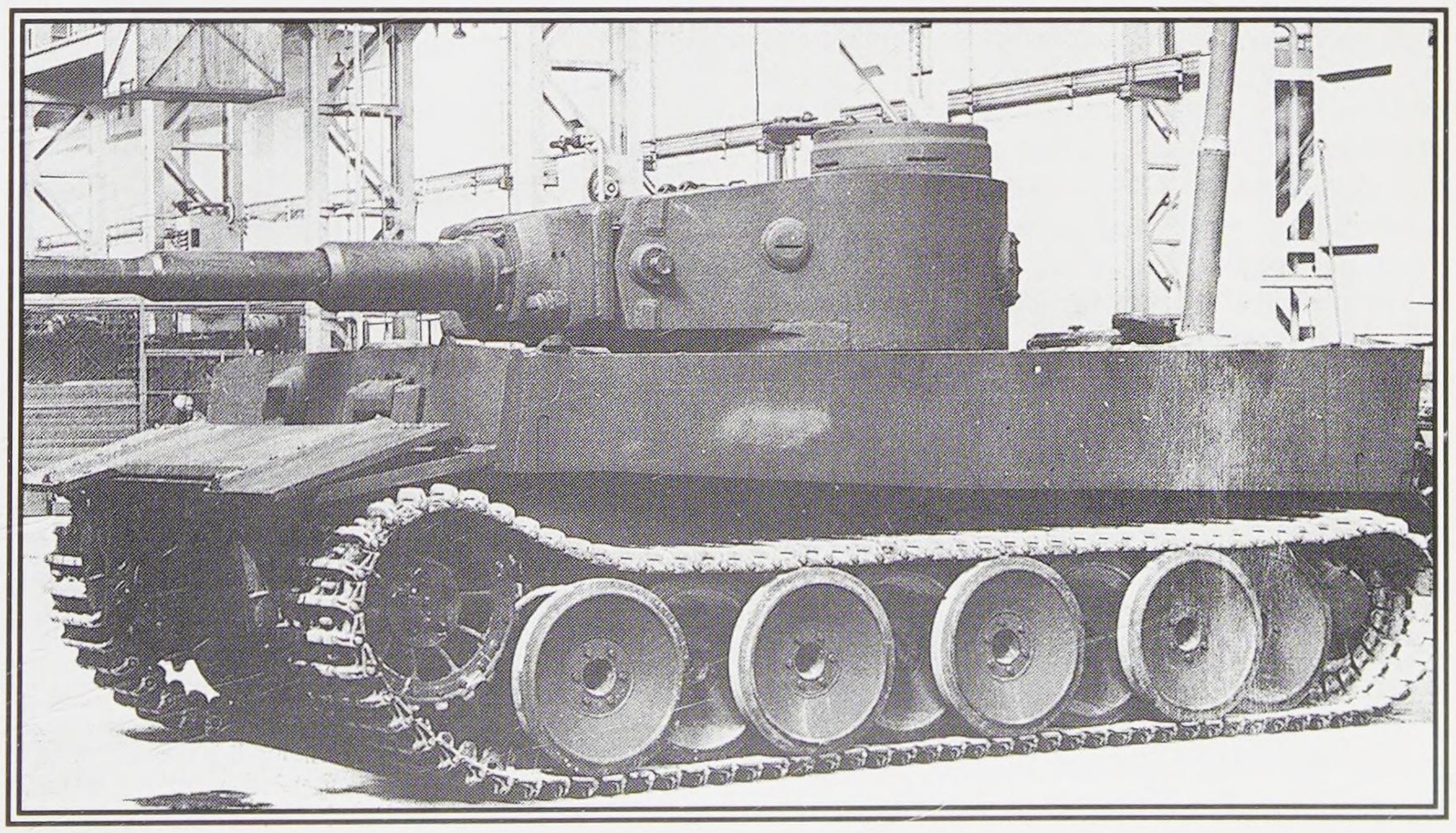
In 1939, Krupp was asked to build a massively armored turret for a new tank design, named the A.W. (Artilleriewagen). This turret was to have 100mm armor plate and carry a short 10.5cm KwK (tank gun). In 1940, Wa Pruef 6 decided the experiences in Poland and France dictated a heavier, more powerful tank. The new Krupp turret was to be used on a D.W. chassis to save weight.

Henschel was told to redesign the VK 30.01 chassis to mount the new turret, resulting in the VK 36.01 with a 36-ton design weight. The front armor increased to 80mm, the sides and rear remained 50mm and both deck and bottom plates were 25mm. The torsion bar suspension increased to eight stations on each side with interleaved roadwheels to carry the extra weight. A Maybach HL 174 engine of 450hp powered the tank and the new Maybach "Olvar" eight-speed transmission was installed in the forward hull.

The "Tigerprogramm" was a development for a new heavy tank mounting the new 8.8cm KwK L/56 antitank gun based on the ballistic design of the famous 8.8cm Flak 18 antiaircraft gun. The Porsche organization was approached to build this new tank based on their earlier work on electric drive tanks. The Typ 100, known as the "Leopard," used two Steyr V-10 air-cooled engines driving generators to power the front sprockets. The power system was similar to that used in the new railroad diesel-electric locomotives. The Porsche project is beyond the scope of this book except that the "Tigerprogramm" was intended as a Porsche design effort, and the Krupp turret designed for the Porsche vehicles was later used on the successful Henschel design.

Henschel's involvement in the "Tigerprogramm" resulted from a meeting at which Adolf Hitler directed that the Henschel VK 36.01 design be considered for mounting the Krupp 8.8cm KwK L/56 high velocity gun. The prototype hull was to have 100mm front armor and 60mm side and rear armor. The 7.5cm Gerät 0725 tapered bore weapon could be considered, but full production would depend on the supply of tungsten for the projectiles. Wa Pruef 6 directed Henschel to redesign the VK 36.01 chassis to mount the 8.8cm gun and turret Krupp was developing for the Porsche VK 45.01 Tiger project. Armor protection for the drive sprockets and tracks was also to be considered, as was deep wading capability. With the cancellation of the Gerät 0725 program in July 1941, the Krupp 8.8cm gun and turret were left as the only available option.

And so, at the end of a long line of developmental vehicles, Henschel arrived at the "Tigerprogramm" in 1941 with the prototype of the Tiger itself—the VK 45.01(H). This was adapted from the VK 36.01, and had a design weight of 45 tons. The major difference was that the hull was

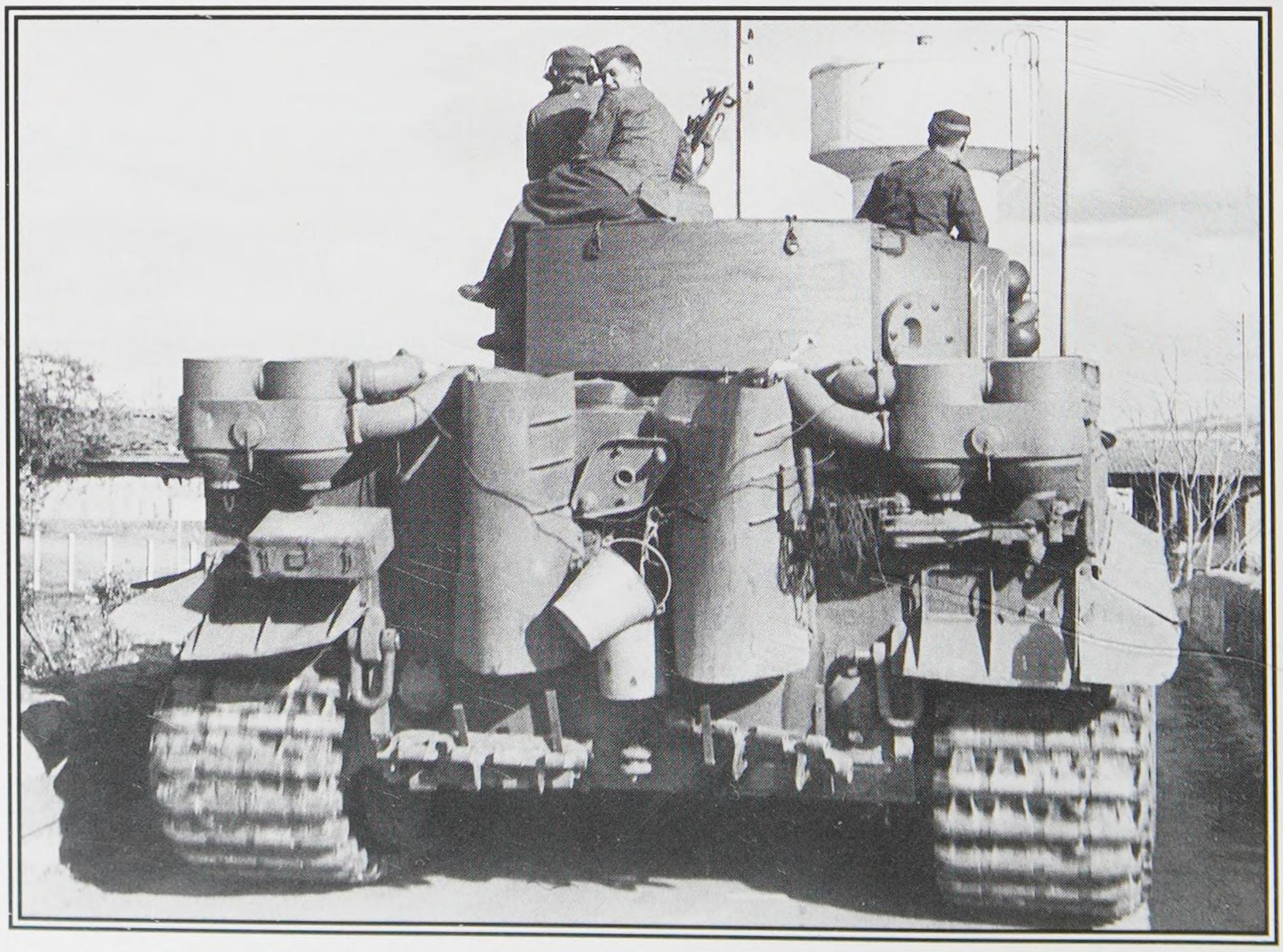


Above: The very first production Tiger I's can be readily identified by the distinctive curved notches in the forward part of the front tow shackles. The notches were cut to accommodate part of the "Vorpanzer" mechanism when the shield was in its folded position. These very early tanks also did not have bolts for the side fenders. This vehicle is a battle-scarred veteran of the Schwere Panzerabteilung 502 and was photographed in the early summer of 1943. This tank was among the very first delivered to the unit at the end of 1942. (BA) **Below:** Among the first units to receive the Tiger I was the Schwere Panzerabteilung 501. These tanks were initially shipped to Sicily, then

widened to extend most of the way over the tracks to accommodate the larger turret ring for the Krupp turret and the placement of the radiators and cooling fans to the sides of the central engine compartment. The superstructure side armor and tail plate were 80mm and the lower hull sides were 60mm thick. The wider side compartments extended forward to the driver's front plate and held ammunition in the fighting compartment. They also protected the tracks and sprockets from above. In contrast to earlier German tank designs, the VK 45.01 superstructure was welded to the lower hull and could not be removed. Maybach developed a new 650hp engine, the HL 210, but most of the mechanical components were carried over from the VK 36.01, speeding design work considerably.

The combat weight rose to 58 tons with the extra armor and equipment, and this forced the engineers to add a third roadwheel to each axle to carry the load. The service tracks were widened to 725mm and 520mm transport tracks were to be provided for railroad transport to maintain proper clearances. The outer roadwheels were to be removed during the change to the narrower transport tracks. The first prototype was delivered with a retractable front armor assembly to protect the tracks and drive sprockets. This was dropped by the time the vehicle reached production. The 4.5m deep wading requirement did survive and the snorkel air breathing system was installed on early production Tigers.

The VK 45.01 (H) was completed by April 1942 and demonstrated to Hitler on his birthday along with the Porsche Tiger design. Following further trials at Berka, and partly because of serious automotive problems with the Porsche entry, the Henschel version was chosen for production. The electric drive system in the Krupp turret was changed to a hydraulic drive for the Henschel production model. An alternate turret was designed by Rheinmetall to mount the 7.5cm KwK 42 L/70 gun on the VK 45.01, but this was built only as a wood mock-up. A redesign of the AP projectile for the 8.8cm gun allowed it to meet the armor penetration requirements, and the 7.5cm KwK 42 was no longer needed. In any event the 7.5cm gun ended up arming the MAN PzKpfw V ("Panther"). The first H1 prototype, completed in April 1942, set the pattern for the entire production



transported to Tunisia by ferry. This photo depicts a tank of the 1st company as it begins its road march from the embarkation point. This vehicle mounts a full set of the Feifel air cleaner canisters. The starter crank panel (between the exhausts) is the very early type. Many of the unique features of the 1st company's vehicles can also be seen here, such as the fender flaps attached to the rear fenders, spare track mounts and sheet metal muffler covers. (BA)

One of the very first Tigers of the 501 to be off-loaded in Tunisia on November 23, 1942. The chassis number, 250015, can be seen stenciled on the end of the muzzle brake cover. This would make it a very new vehicle as records indicate that 250015 was produced during the month of October. The wire leads for the headlights appear to be a natural metal color. Although they are difficult to see, the Feifel canisters seem to be a very dark color. (BA)

Another view of the tank seen on the previous page. This angle shows the markings to good advantage. Also note the fender bolts and the transport tracks. (BA)

run of Tiger tanks. Though there were many detail changes, the basic design and appearance of the vehicle were remarkably similar from beginning to end.

The VK 45.01 (H), eventually known by over a dozen official and unofficial designations, was built in series from August 1942 to August 1944, though the first production example had appeared in June 1942. Total production was 1,346 vehicles. Commonly referred to as the "Tiger," this weapon was meant to be a heavily armed and armored breakthrough tank, with a large gun and enough armor to allow it to dominate the battlefield and any enemy forces it encountered. It was issued primarily to corps-level special heavy tank battalions, to be used by corps and army commanders to augment the attack and strengthen the defense, as required. In this role, the Tiger was one of the most successful weapons of the war. Though far from invulnerable, the Tiger was generally an extremely effective weapon system. Such was the morale in most Tiger units that right up to the last day of the war in Europe, Tiger crews followed orders and blew up their tanks rather than surrender them. Only a handful survived the fighting in World War II.

At the time of its introduction, the Henschel VK 45.01 Tiger prototype represented the most advanced development of German tank design. Nonetheless, it also had followed the preceding models very closely in concept. The hull, though heavily armored, was essentially similar to all previous German designs, having a box-shaped hull body with the engine in the rear and the transmission and final drives up front in a box extension of the main hull. The torsion bar suspension, similar to that used on the PzKpfw III medium tank, provided an excellent ride and good stability across rough terrain. The 725mm wide service tracks gave very good flotation, allowing the Tiger to cross soft ground more easily. The only tactical disadvantage of the wide tracks was the need to remove the outer roadwheels and change to narrow tracks for rail transport. The turret was placed in the center of the hull, which reduced the overhang of the long barreled main gun. The fighting compartment was separate from the engine section and was sealed from the engine compartment to protect the crew from fumes and possible engine and fuel fires. The large turret accommodated the 8.8cm KwK 36 L/56 gun

and allowed the three men in the turret sufficient room to work well. The mechanical components were the best available within the limited development time frame.

All tanks are compromises, but within the limits of German technology and industrial capability, the Tiger was less of a compromise than most other tanks of the period. It achieved the designers' goals of firepower, protection and mobility, and gave the German military an excellent new tactical and strategic weapon.

In spite of its technical strengths and a reasonably aggressive production schedule, the Tiger only rarely achieved its potential as a strategic weapon, capable of altering the balance of combat on a large scale. There were a number of reasons for this and only a few of those were in the hands of the designers and crews. Among the factors that hampered the proper and most effective use of the Tiger, the most important were: limited numbers (especially for the earlier formed battalions in 1942-early 1943), severe maintenance issues, transportation difficulties leading to shortages of vehicles, spare parts and fuel, and, perhaps most tragically of all, the widespread tactical and strategic misuse of the Tiger units. This was a major reason so many of these battalions were ground down to a few surviving vehicles without achieving what the breakthrough tank concept and Henschel's design could have allowed. There were uncounted instances in which a few Tigers broke attacks by dozens of enemy tanks, showing what was possible had the Tigers been used in the best of circumstances.

Organization and deployment

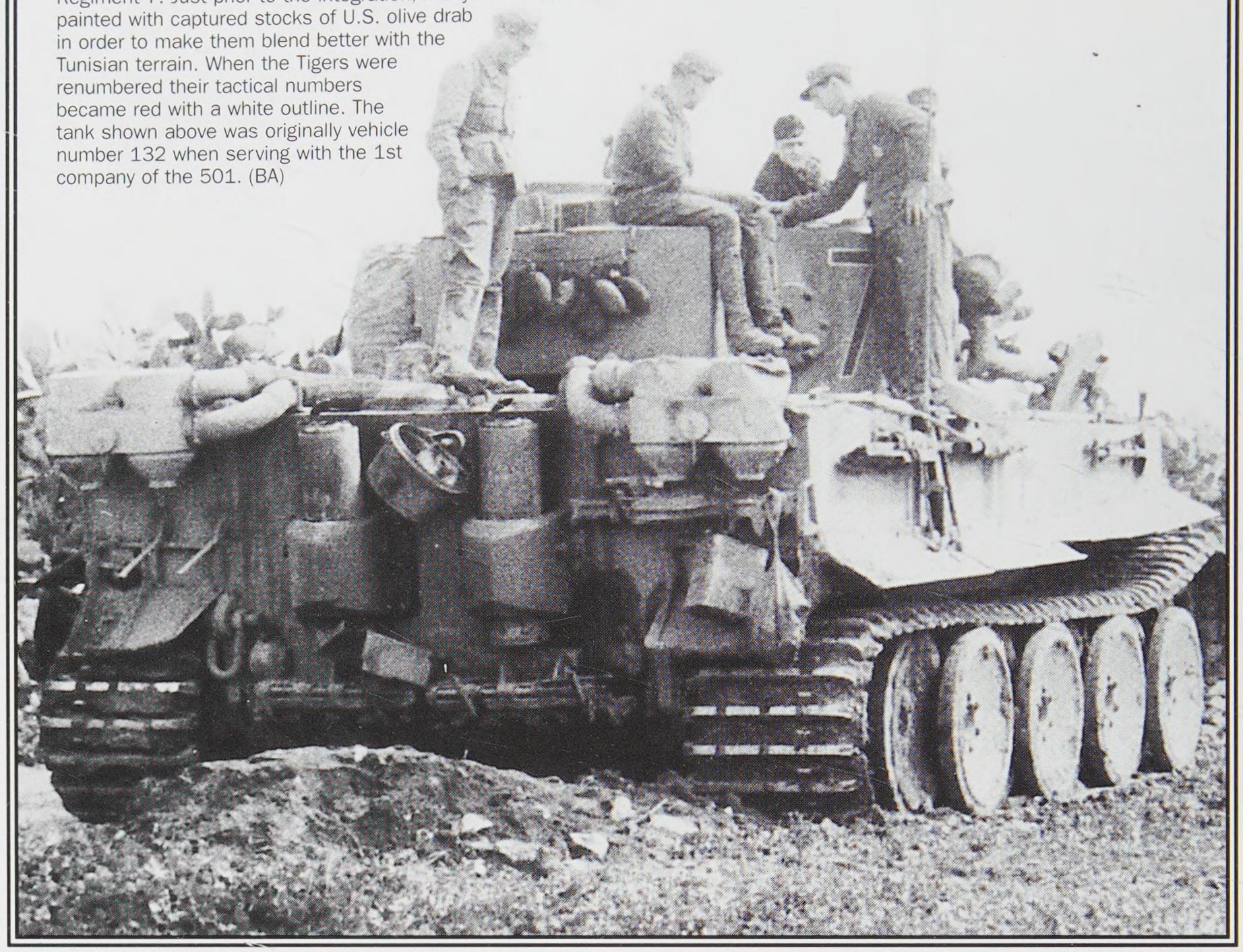
The first few Tiger battalions formed faced the problem of competing with the other forming Tiger units. There were few Tigers available in 1942 or early 1943 and the Tigers had to be rationed to allow as many units as possible to get training and experience with this new weapon. These early battalions had limited numbers of Tigers, augmented with PzKpfw III medium tanks:

s.PzAbt 501:	20 Tigers, 24 PzKpfw III	(October 1942)
s.PzAbt 502:	19 Tigers, 27 PzKpfw III	(December 1942)
s.PzAbt 503:	22 Tigers, 29 PzKpfw III	(December 1942)
s.PzAbt 504:	20 Tigers, 25 PzKpfw III	(February 1943)
s.PzAbt 505:	20 Tigers, 25 PzKpfw III	(March 1943)

Thus, the effective strength of these battalions was only half of the planned complement of 45 Tigers. In addition, there were the inevitable learning curves in training, maintenance, operations and supply. The Tiger, like the Panther, had been rushed into production well before the design was fully mature and tested. The power train, especially the transmission and final drives, had been designed for a 36-ton vehicle. In spite of changes to accommodate the 20-ton increase in vehicle weight, these legacy mechanical components proved to be easy to overstress and damage with rough handling. Note that a really good driver could, and often did,

(Text continued on page 10)

In February of 1943, the 501 was integrated into the 10th Panzer Division, becoming the 7th and 8th companies of its Panzer Regiment 7. Just prior to the integration, many of the tanks were painted with captured stocks of U.S. olive drab in order to make them blend better with the Tunisian terrain. When the Tigers were renumbered their tactical numbers became red with a white outline. The tank shown above was originally vehicle number 132 when serving with the 1st company of the 501. (BA)

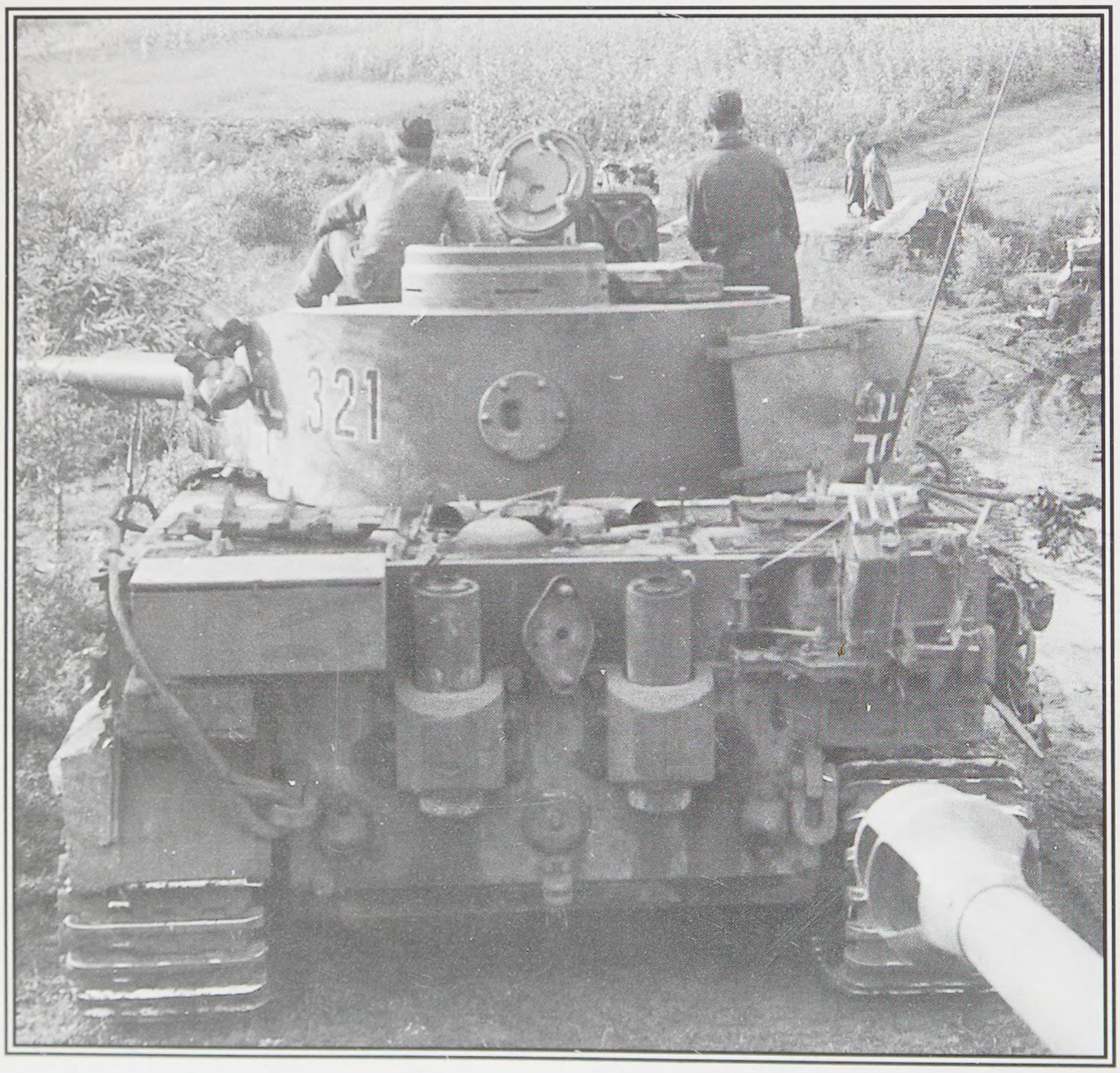


This and the following several photos depict Tigers of the Schwere Panzerabteilung 503 in the late summer of 1943. The Tiger shown here is a Panzerbefehlswagen as evidenced by its multiple antennae. The storage container for additional Fu 8 antenna sections can also be seen on the left rear hull. The engine starter plate (between the exhausts) and the fenders indicate that the Tiger is the very early type. (BA).

This line of Tigers has come to a stop and the crews are preparing for general maintenance. Tanks from the 3rd company of the 503 often sported unusual tactical markings. The numbers on the tank in the foreground have a dark colored outline and the tank has at least six balkencruzes, in at least two different sizes. This Tiger also has the early unit made Gepächkasten storage bin with a recognition flag tied to the top. This bin would indicate a tank produced prior to January of 1943. Also note the early, flat style tow shackles. This exact tank is depicted in model form later in the book. (BA)

A view of the tank parked near number 323. This Tiger was manufactured between March and May of 1943. The identifiers are the single canister Feifel cleaners introduced in March of 1943 and the single-hole starter plate, which was dropped in May of 1943 in favor of a double-hole plate. Although not visible in this photo, the Gepächkasten on the turret would be the more familiar production type, first seen on tanks produced in late January and early February of 1943. (BA)

The first significant external change to the appearance of the Tiger was the deletion of the right side turret pistol port. A large circular escape hatch was put in its place to facilitate the evacuation of the crew in an emergency or for loading ammunition. This change took place in December of 1942, somewhere around chassis number 250080. The photo above is part of the previous series. Like others in the unit, Tiger 333 displays four balkencruzes in addition to its three tactical numbers. It is also missing all of its rear mounted external equipment, including the track toolbox and the 15-ton jack. Interestingly, there are four spare road wheels stowed on the rear deck. (BA)



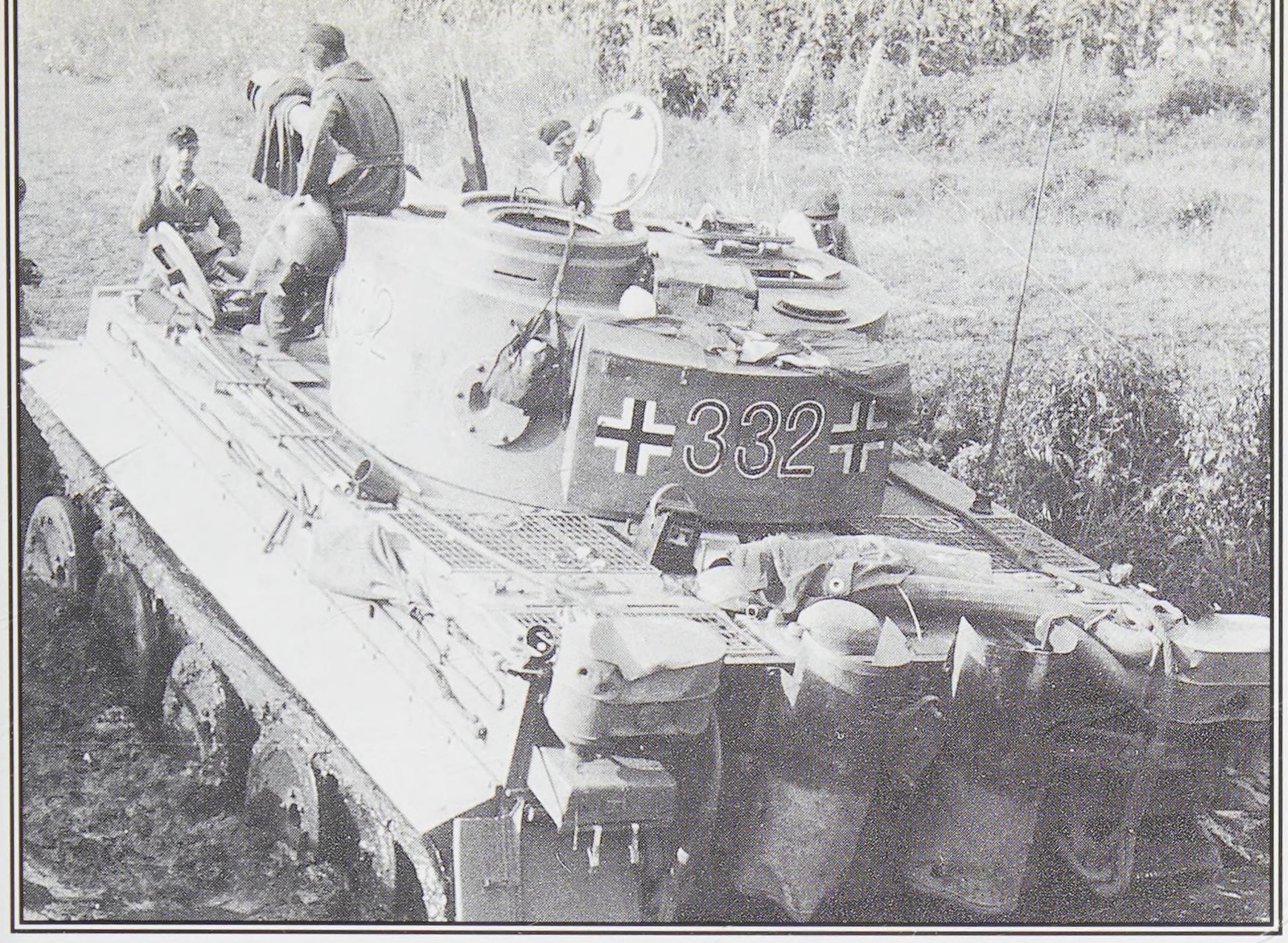
In early October of 1943, the 503 was moved to the Snamenka area for training. This photo and the one on the top of the opposite page are part of a sequence showing the crews practicing recovery techniques. Tank 332 has intentionally wedged itself into a streambed. Other Tigers from the company wait to move forward and recover it. 321 has two unit made stowage racks on the rear hull. The unit made Gepächkasten is also present, but it appears to be detached. (BA)

operate the Tiger over long distances with few or no repairs or maintenance required. However, the gears and clutches were operating at their upper limits and a poor or heavy-handed driver could easily crack or strip teeth in the final drives. This problem was never entirely eliminated, but was improved in later production models.

"17 of 29 Tigers available;
lack of spare parts."
(s.PzAbt. 501)

"All but two Tigers damaged
on road march."
(s.PzAbt. 502)

Maintenance proved difficult compared to the lighter tanks in the inventory. Any need to replace the transmission or final drives required removing the Tiger's turret, as there was no other way to remove these components from the forward hull. A 15-ton Fries gantry crane had to be erected to lift the turret and set it aside. The crane was also used to lift the transmission and final drive assemblies. The Maybach HL 210 (later HL230) engine was fitted tightly into the engine compartment, and cooling problems resulted in a number of engine fires early on. These often caused the destruction of the entire tank. Even after later improvements, engine fires often resulted from operations in very hilly terrain or attempts to tow damaged Tigers. Tracks often wore unevenly, roadwheels lost rubber tires and torsion bars bent or broke. Even with the best efforts of the recovery and workshop crews, the final drives on many Tigers had to be replaced or repaired several times. Worse, dozens of Tigers had to be destroyed because they broke down and could not be recovered. Most Tiger battalions had forward repair units that worked through the night to repair damaged or broken down Tigers for the next day's action.



"27 Tigers ready after spares delivered."
(s.PzAbt. 501)

"39 Tigers being repaired; none ready for action."
(11 Tigers ready 15 days later-s.PzAbt. 503)

"45 new Tigers arrive; 11 engines catch fire, one total loss."
(s.PzAbt. 503)

Transportation problems led to shortages of spare parts and fuel. Many Tiger outfits had to operate their own transportation networks to railheads or distribution points to ensure the fastest delivery of parts and supplies. In Russia, the track gauge on railroads was wider than the European standard. Until European gauge track could be laid, all rail supplies had to be transferred to captured Russian trains to be delivered to front line units. In spite of all these problems, most Tiger units—until the last months of the war—were able to keep enough of their tanks operational that the battalions were able to fulfill their missions.

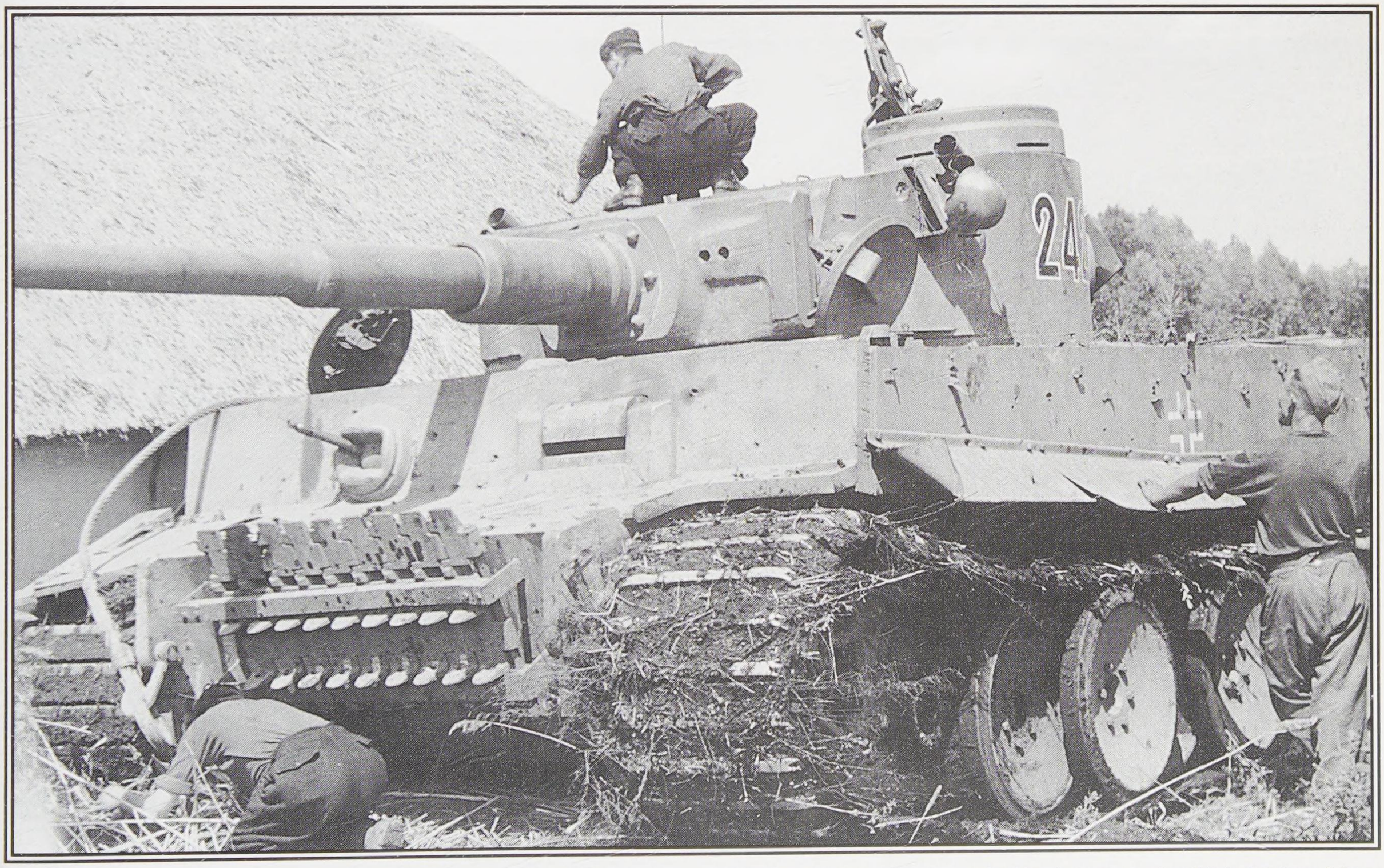
"Several Tigers blown up due to lack of fuel."
(s.PzAbt. 501)

"Tiger scrapped due to lack of replacement roadwheels."
(s.PzAbt. 501)

Typically, after a period of combat, the repair sections of a Tiger battalion could maintain about half the tanks in combat readiness. This number would fall in periods of heavy action and rise in lulls in the fighting. Many heavily damaged Tigers being sent to the factory for major rebuilding were stripped of all usable parts, to maintain the remaining vehicles. The number of available Tigers could double in just a couple of days of repair effort and fall as fast after a hard fought battle.

"36 Tigers of 53 available; later, 49, then 51 tanks ready."
(s.PzAbt. 501)

(Text continued on page 14)



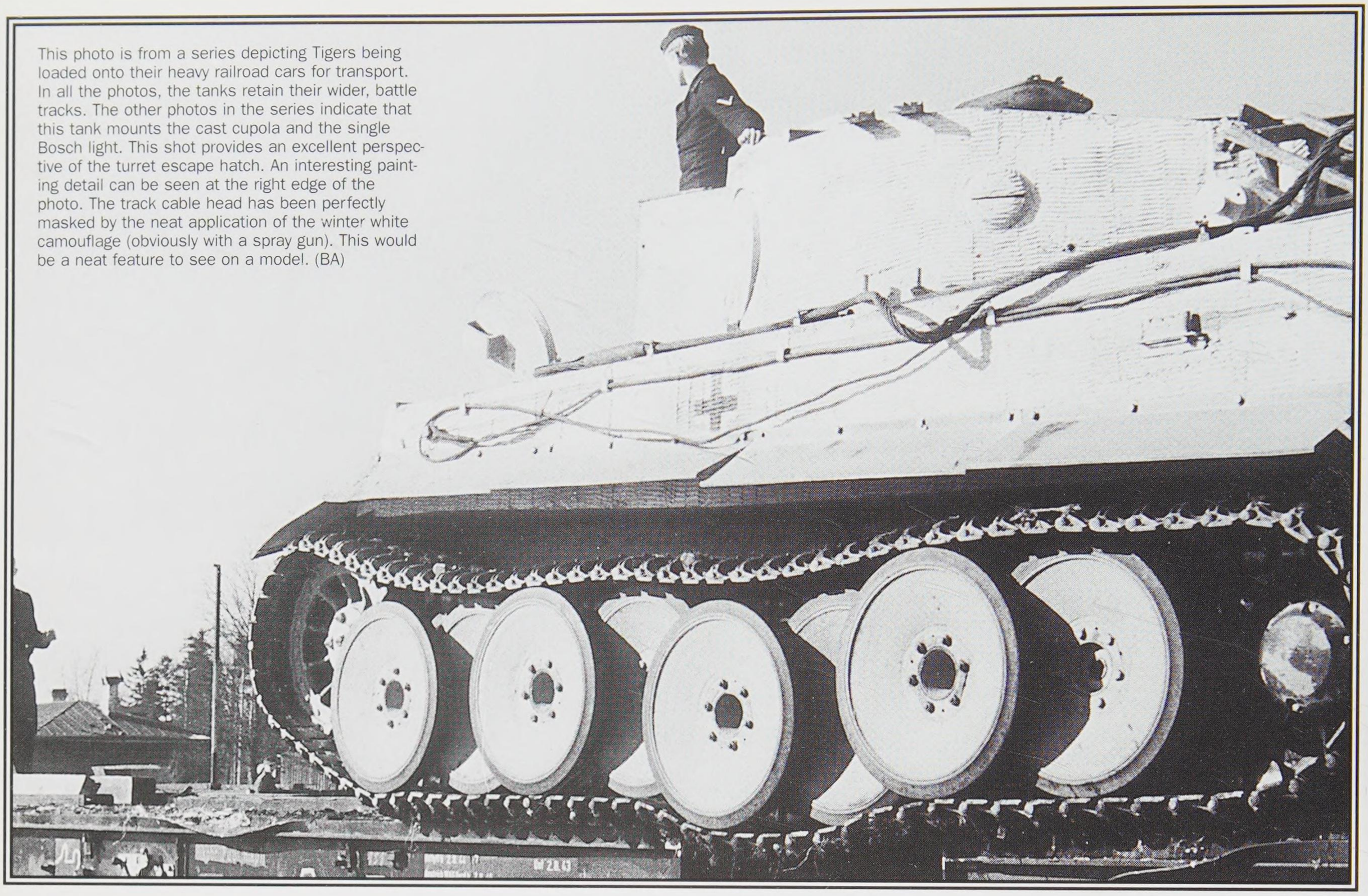
This Tiger is from the 2nd company of the 503. The tactical numbers of the 2nd company had a very distinctive style, being somewhat thicker through the middle. The tank has a very common feature, the spare track rack on the front hull. This was never a production feature of the Tiger, but it was commonly added to the front of the vehicle by unit workshops. The forward most roadwheel has been removed on this tank to keep it from clogging with mud—apparently a successful practice! Note how the bright metal of the tracks peers through a thick layer of mud and turf. This effect can be best accomplished on a model with the white metal Friulmodellismo tracks. (BA)

In addition to serving alongside the 2nd SS Panzer Division "Das Reich," the tanks of the 503 fought with the troops of the SS Division "Totenkopf." As noted in Schneider's *Tigers in Combat I*, these actions occurred on the 12th and 13th of August in 1943. This Tiger pictured here is almost certainly a tank from the May 1943 production, making it one of the newer machines in the field at that time. As of chassis number 250251, Tiger I's leaving the factory were outfitted with the larger Maybach HL 230 P45 engine. These vehicles also had reinforced gun aperture areas on the mantlet, which is the identifying feature here. (BA)

This photo makes an interesting comparison to the one above, as it depicts an earlier photo of tank 323 (page nine). It is in considerably better shape than in the previous photo! 323 is a December/January production tank with the unique unit made Gepächkasten. The difference in the design of the mantlet can be seen. This tank also has a spare track hanger on the front of the hull, although it is of a different design. The relative thickness of the track cable can be seen here. This cable is generally thinner than most modelers choose to depict it. The outside roadwheels have received several shrapnel hits. This Tiger also has the very early style, flat tow shackles. (BA)

The Panzergrenadier Division "Großdeutschland" was one of only two Wehrmacht units to have an organic unit of Tiger tanks. There were three companies in this regiment and they were denoted tactically by the letters A, B and C, representing the 9th, 10th and 11th companies, respectively. The tank shown above was part of the 11th company of GD's Panzer Regiment. It is tactical number C01 and it was delivered in June of 1943. It is most likely from the May production batch, as evidenced by the loader's periscope on the right side of the turret roof. These vehicles also had the more powerful Maybach HL 230 P45 engine. (BA)

Starting in July of 1943, a new turret was introduced on the Tiger I. Its most distinguishing external feature was the dome-shaped, cast cupola. These tanks are commonly referred to by modelers as "mid-production" Tigers. This vehicle also mounts the single front headlight, a factory applied coating of Zimmerit anti-magnetic paste and chevron faced track links. This puts its date of manufacture somewhere between October 1943 and January 1944. Interestingly, this tank has steel, chevron-shaped ice cleats strung on its side with wire. These could be mounted in the center of a track link for deep traction on ice or packed snow. (BA)



This photo is from a series depicting Tigers being loaded onto their heavy railroad cars for transport. In all the photos, the tanks retain their wider, battle tracks. The other photos in the series indicate that this tank mounts the cast cupola and the single Bosch light. This shot provides an excellent perspective of the turret escape hatch. An interesting painting detail can be seen at the right edge of the photo. The track cable head has been perfectly masked by the neat application of the winter white camouflage (obviously with a spray gun). This would be a neat feature to see on a model. (BA)

"Over 40 Tigers break down during 50km road march; repaired later." (s.PzAbt. 502)

"All 27 Tigers in battalion out of service." (18 ready 11 days later-s.PzAbt. 506)

Due to the Tiger's combat weight of 56 tons and the lack of heavy recovery vehicles, retrieving damaged or bogged-down tanks could be a nightmare. One Tiger that was bogged down in soft ground was recovered only with the aid of 12 Tigers. Many Tigers could not be recovered and were blown up to prevent their capture. In addition, recovery efforts were usually in the middle of the front line battle zone and the crews were often under fire the whole time they worked to retrieve a Tiger. On occasion, recovery teams had to be supported by tanks, infantry and artillery to recover a tank successfully. Sometimes a tank would be recovered after tremendous effort, only to have to be blown up when the towing vehicles broke down or a critical bridge was destroyed. Tiger crews worked alongside the recovery teams to retrieve and repair their tanks.

"Several tanks bogged down in swamp; cannot be recovered." (s.PzAbt. 501)

"Tiger goes through bridge; has to be blown up." (s.PzAbt. 501)

"3 Tigers and 2 FAMO tractors tow 8 Tigers to shop; all need repairs." (s.PzAbt. 503)

The Tiger ausf. B ("Tiger II") presented even more problems because it was considerably heavier and more difficult to recover and tow. It also had an overstressed drive train and final drive failures were common. Workshop crews became adept at replacing final drives and rebuilding gear sets. Normally the 15-ton Fries gantry crane was erected at the unit's repair shop location and left up so it would be ready whenever it was needed. The Tiger II's extra weight, using the same basic engine and drive system, added to the previous Tiger I's maintenance load. Nonetheless, most Tiger II battalions were able to maintain sufficient tanks in service.

"Most of the Tiger IIs break down on 50km road march; final drive failures." (s.PzAbt. 501)

"2 Tiger IIs break down with gear box failures during propaganda demonstration." (s.PzAbt. 503)

"3 of 6 new Tiger IIs catch fire and burn out." (s.PzAbt. 506)

In one area, moreover, the Tiger II was at a disadvantage compared to the Tiger I. Its combat weight of nearly 70 tons made it less mobile than the Tiger I, stressed the power train and made the vehicle harder to move across country, as there were even fewer bridges capable of supporting its weight. Fording routes across streams and rivers had to be scouted and hilly terrain brought a greater risk of mechanical failure. It was found that the 16-ton portable bridge design would support the Tiger II, but this often meant having to wait for the bridges and pioneers to come up to the front. A good driver could prevent much of the strain and damage to the power train, but too often, the Tiger II had even less mobility than the Tiger I. Some field commanders felt the Tiger II was too slow and hard to operate in rough terrain. The excellent KwK 43 L/71 was capable of destroying any Allied tank at very long range, but the Tiger II was also vulnerable to mechanical damage and a broken down tank was a liability. The Tiger II was also considered less suitable for fighting in cities or built up areas. The long gun barrel had to be placed carefully to avoid hitting buildings or poles and any tank in a city combat environment is exposed to enemy infantry hiding in buildings or cellars. The advent of "Monroe-effect" (shaped charge) weapons had rendered every tank of the World War II period vulnerable. Several Tigers were in fact knocked out by German Panzerfaust antitank grenades, which were captured in large numbers and used by both Russian and Allied forces.

"One Tiger destroyed by friendly Panzerfaust." (s.PzAbt. 502)

"Limited capacity bridges prevent Tiger IIs from reaching objective." (s.PzAbt. 502)

"Attack stalled; enemy blew up all the bridges on the advance route." (s.PzAbt. 509)

(Text continued on page 17)

The vehicle seen in these two photos is a rarely seen production version of the Tiger I. The tank features the cast cupola, but only a single Bosch light mounted on the left side of the hull. The shovel mount is also reversed. It sports a full factory coating of Zimmerit, but the tracks do not yet have their distinctive chevrons. This puts its date of manufacture somewhere between August and September of 1943. The angle of the barrel indicates that the internal gun travel lock has been engaged. The inset photo shows the more forward location for the turret ventilator (directly over the gun breech), a feature introduced with the new turret in July of 1943. (BA)

A battered Tiger of the Schwere Panzerabteilung 503 heads for the Seine on the streets of Bourgtheroulde, France in late August of 1944. Many units had moved towards the river in the vain hope of escaping the advancing allied armies. Unfortunately, bombing had dropped all the bridges across the Seine and there were no available heavy ferries.

This post April 1944 production vehicle has had its front fenders sheared away and the remaining side fenders are in a rough state, as well. This vehicle exhibits another feature of late production vehicles, the lighter muzzle brake. This part was originally designed for the 8.8 cm Kw.K.43 L/71 installed in the Tiger II. (BA)

Significant changes were made in the appearance of the Tiger towards the end of its production run. In February of 1944, at chassis number 250822, new all-steel road wheels were introduced. The German term for these wheels was "gummisparendem Laufrollen," which translates to "rubber saving road wheels." This GD vehicle has another late production feature, the monocular gun sight in the turret. The single, rather than double, aperture in the mantlet illustrates this. This feature was introduced in April of 1944, somewhere around chassis number 250990. This tank also has a pristine, factory applied coat of Zimmerit anti-magnetic paste. (BA)

This Tiger is serving with the SS 102 Schwere Panzerabteilung. Its tactical number indicates that it is a member of the 2nd company. According to information in the Japanese language book, *Der Panzerkampfwagen Tiger an der Front Bildband*, this photo was taken in Northern France in July of 1944. At this time the unit was moving south to engage the Allied forces building up around the Normandy beach head. This tank has a very interesting camouflage pattern on its main gun. Note the light colored bands. (BA)

This leads to perhaps the biggest problem in using the Tigers in combat: the continuing misuse of Tiger units by German commanders. The Tiger heavy battalions were generally assigned as corps-level units. The local corps or army level commander could then use the Tigers as he saw fit. Most corps and army level senior commanders did not come from the armored forces, nor did many of them have significant armor experience. Many senior officers had come out of the infantry. Even those commanders who did appreciate the tactical and strategic value of a battalion of 45 heavy tanks often had to use them as rapid reaction forces to prevent enemy breakthroughs, or to bolster German offensives.

"'Preposterous' engagement, right into enemy infantry strong points." (s.PzAbt. 501)

"'Dubious' mission along forest path results in lost Tiger IIs." (s.PzAbt. 501)

"Battalion ordered to leave favorable positions, assembles in unsuitable terrain..." (s.PzAbt. 501)

"Tigers ordered to break off (successful) attack and assume defensive positions." (s.PzAbt. 502)

"3 Tigers knocked out by StuG III battery; corps forgot to coordinate the attacks!" (s.PzAbt. 503)

The unfortunate result was that most of the Tiger battalions were broken up, the companies being assigned to support different divisions in the corps or army. Many times the companies were further divided, with platoons spread out along the front. In reading Tiger battalion combat reports, the most striking thing is that most actions involved only a few (2-6) Tigers at a time. On a local level, they often carried the day. Many an offensive or defensive action succeeded only because the Tigers had been present. On a strategic level, however, too many times the strength of a Tiger battalion would be whittled away, sometimes wasted completely. In addition, many infantry commanders did not understand tank doctrine well, or the capabilities and limitations of Tigers. Against their wishes and often over their strong protests, Tiger commanders were ordered to break up the units into smaller and smaller detachments, down to individual Tigers supporting infantry companies or platoons. Tanks were ordered into swamps, or down unprotected forest trails in thick woods, often without infantry support. Each local infantry or armor unit commander had the authority to use his attached Tigers as he needed or desired to.

"Insufficient reconnaissance leads to failed attack and several lost Tigers." (s.PzAbt. 501)

"Awaiting Soviet offensive, 2nd Co. broken into small groups of 2-3 Tigers each." (s.PzAbt. 502)

"Tigers completely dispersed, down to single tanks, without infantry support..." (s.PzAbt. 502)

"3 Tigers to 223. I.D.; ordered to parade along the front to raise troops' morale." (s.PzAbt. 503)

"3rd Co. attacks without infantry support; attack comes to a halt." (s.PzAbt. 507)

"3 companies split, each supporting a different infantry division." (s.PzAbt. 507)

"Battalion employed very widely dispersed, down to single tanks..." (s.PzAbt. 508)

"Under protest, Tigers ordered into swampy ground; 6 of 12 Tiger IIs break down." (s.PzAbt. 509)

(Text continued on page 19)

Among the first units to receive the new Tiger II in the west was the 3rd Company of the Schwere Panzerabteilung 503. According to Jentz's *Tiger I & II Combat Tactics*, most of these tanks were the early production version with the narrower mantlet and segmented turret ring guard. This photo is from a series taken during gunnery training at Mailly de Camp, France in late July of 1944. The tanks of the 3rd Company were later entrained and traveled to Paris. At least one of its tanks was lost in route when it attempted to drive off its rail car during an air attack! Many of the unit's Tigers were later lost in the fighting in Northern France. (BA)

Here, Tiger IIs of the Schwere Panzerabteilung 501 are seen undergoing a track change after arriving in the Kielce sector of the Eastern front during the summer of 1944. The transport tracks still remain on the left side of the forward tank. Compare this with the wider tracks seen on the tank in the background. Both tanks lack their armored side skirts, which would have been removed for transport. The tactical numbers of Tiger IIs in the 3rd Company of the 501 had a very distinctive style. The tops of the number "3" were flat, instead of rounded. Also, the 501 tended to favor a larger Balkenkreuz, seen here to good advantage on the turret. (Fedorowicz)

This Tiger is a mount of SS s.Pz.Abt 101 of the LAH. The 1st Company of that unit received its new Tiger II's at the Paderborn training center in late July of 1944 and first took them into action on August 23rd of that year. Here, 113 moves though the town of Beauvais, France later that month. It represents the typical July 1944 production with the bell-shaped housing for the gun base. It's finished in the standard three-tone camouflage and has yellow tactical numbers. This tank was later abandoned due to lack of fuel on September 9th, 1944. This photo was actually taken, at great personal risk, by a French civilian. (Gemob/de Meyer via Fedorowicz)

This shot again depicts a tank of the Schwere Panzerabteilung 503. The unit received 45 new Tiger II tanks during its reformation in late September of 1944. The 503 was moved into Hungary in October to assist in putting down a coup staged by Hungarian officers. This shot is one of several famous photos of 503 Tiger IIs moving through the streets of Budapest. The tanks were really there as a show of force and the opportunity for the PK cameraman must have been irresistible. Several of the other shots show German soldiers alongside Hungarian loyalists. This is the classic configuration of the Tiger II, with its full coat of Zimmerit, complete tool suite and side skirts. (BA)

Though many commanders issued their orders with the best of intentions, or as desperate reactions to impossible conditions, the result was that the Germans were denied the "shock effect" of a full battalion of heavy tanks to overwhelm the enemy's front line and dominate the battlefield. By the time Tigers were in wide service, German troops were largely in a defensive war. Using large formations of Tigers in the best way—good terrain, clear tactical objectives, good reconnaissance—could have relieved much of the horrible pressure on the German forces in many areas of the front. It was perhaps only a small consolation to the Tiger crews that similar errors were made in the deployment of Panthers and Panzergrenadiers.

And yet, when all was said and done, the Tiger in good numbers and good repair was probably the most effective battle tank available to German combat units. Used properly, or in good terrain (or thrown into a favorable situation by accident), the Tiger was easily capable of dominating the battlefield as it was intended. Less vulnerable from the sides and rear than the lighter Panther, the Tiger could stand and fight to the point that the enemy could not pass a Tiger unit's position. Hundreds of times, even a few Tigers were all that held the front together. Although many Tiger battalions had days when they destroyed dozens of enemy tanks and guns, more often it was the day to day small actions that held the line or carried the assault deep into the enemy's rear. It is no accident that several Tiger battalions accounted for well over 1000-1500 enemy tanks and guns destroyed in combat. The tanks were perhaps flawed in some aspects, but the men who served in them often made up for any mechanical deficiencies. As armies have learned in battles from before Thermopylae to the present, it's the men, not the machines, who really count the most.

"5 Tigers destroy 25
enemy tanks."(Tunisia.)
(s.PzAbt. 501)

"Tigers destroy 84 tanks and 71
guns in 2-1/2 weeks." (Russia)
(s.PzAbt. 502)

"In 2 1/2 months, battalion
destroys 501 tanks, 388 AT
guns, 79 artillery guns..."
(s.PzAbt. 503)

"70 Russian tanks and 40 AT
guns destroyed; 4 Tigers
and 4 Panthers lost."
(s.PzAbt. 503)

"Battalion penetrates
Soviet lines, causes
collapse of front line."
(Not exploited.)
(s.PzAbt. 505)

"17 T-34s destroyed in one
engagement."
(s.PzAbt. 505)

"Battalion knocks out 20
T-34s in one engagement."
(s.PzAbt. 506)

"70 Russian tanks
destroyed in one day."
(s.PzAbt. 507)

"31 Russian tanks
destroyed in one day."
(s.PzAbt. 509)

In the end, Germany was overmatched by an alliance of nations with several times her population and vast industrial resources and raw materials of which the Germans could only dream. Even the Panthers, Tigers, jet fighters, missiles and the most effective infantry of World War II could not stay the inevitable. It is said that timing is everything. Germany entered the war nearly 10 years before the date the General Staff had told Adolf Hitler they would be ready. When the last major intact forces—ironically the cavalry corps, where it had all started—surrendered in early June 1945, Germany's war was over. A month later, a blinding flash split the night sky over Alamogordo, New Mexico. The men who directed the creation of that blast of fire had planned to use it against Germany. They were too late.

In November, the Schwere Panzerabteilung 503 was moved to the city of Gyöngyös, Hungary where this picture was taken on the 15th. The 2nd Company is still using the thicker style tactical numbers first seen on its Tiger Is in Russia in 1943. The loss of side skirts was fairly common on the Tiger II. However, these skirts were an important piece of armor protection for the tank, protecting the area just above the track. The crew has attached the tow cables to the front of the vehicle to aid in a quick recovery. Mechanical and drive train problems plagued the Tiger II throughout its service life. Its weight was just a little too much for the design of the engine and drive train. (Fedorowicz)

The Schwere Panzerabteilung 507 received 11 new Tiger II tanks on March 22, 1945 while reorganizing at Sennelager, Germany. These Tigers were among the last production types to go into combat. The tank shown here exhibits many of the March attributes, such as the single link tracks, 18-tooth drive sprocket and ribbed front fenders. As prescribed by orders, it would have received a base coat of olive green at the factory, with dark yellow applied in hard contours. This may be a tank of the 2nd Company of the 507 that was ambushed near Altenbeken on March 31; making its service life very short. (NARA)

THE TIGER I TANK DESCRIBED

The Tiger tank was made up of two major assemblies—the hull and the turret. The hull assembly contained the armor body, engine, power train, suspension, tracks, cooling system, ammunition provisions, radio equipment and external tools and equipment. The turret contained the turret armor body, main gun and mount, sighting equipment, vision arrangements, seats and controls for the turret crew, intercom installation, self-defense installation, stowage provisions and ventilation system.

The armor hull was made of good quality machineable rolled armor plate. The hull consisted of the lower hull, upper superstructure and front hull extension for the transmission and final drives. The driver's front plate and front nose plate were 100mm thick. The sloped glacis plate and lower hull sides were 60mm thick, and the upper superstructure side plates and hull tail plate were 80mm thick. The hull bottom plate, top deck plate and side panier bottom plates were 25mm thick. The hull was divided into the engine compartment in the rear and the fighting compartment in front. In the rear, the two side panniers were open on the top and contained the cooling system radiators and fans and the upper fuel tanks. Solid walls separated the fighting compartment from the engine bay in the rear and also divided the engine section from the side compartments for the cooling system and upper fuel tanks.

The fighting compartment held the power train—including the hydraulic drive motor for the turret, as well as crew accommodations for the driver and radio operator, ammunition stowage for the 8.8cm main gun and 7.92mm MG 34s and the turret race and opening in the top deck to mount and support the turret. Tow shackles were mounted in holes cut into extensions in the hull side plates, and a rear towing pintle allowed a trailer to be towed when necessary. The driver and radio operator both had round, hinged hatches with assist springs to ease raising and lowering the hatches.

The driver had an armored vision visor mounted in the front plate. Two thick sliding shutters, operated by a hand wheel, protected the vision opening. Armor glass 70mm thick protected the driver when the shutters were open. A K.F.F.2 periscope sight provided limited (65 degrees) vision when the shutters were closed. The radio operator's MG 34 was mounted in the "Kugelblende 100" ball mount, which was welded into the front plate. The MG 34 was a special armored type, with a thicker barrel jacket having cooling slots top and bottom. A "Kugelzielfernrohr 2" sight mounted on the rear of the ball mount itself allowed the radio operator to aim the MG. The ball mount could traverse 30 degrees and elevated from -10 to +20 degrees.

Fig. IA-1 August, 1942

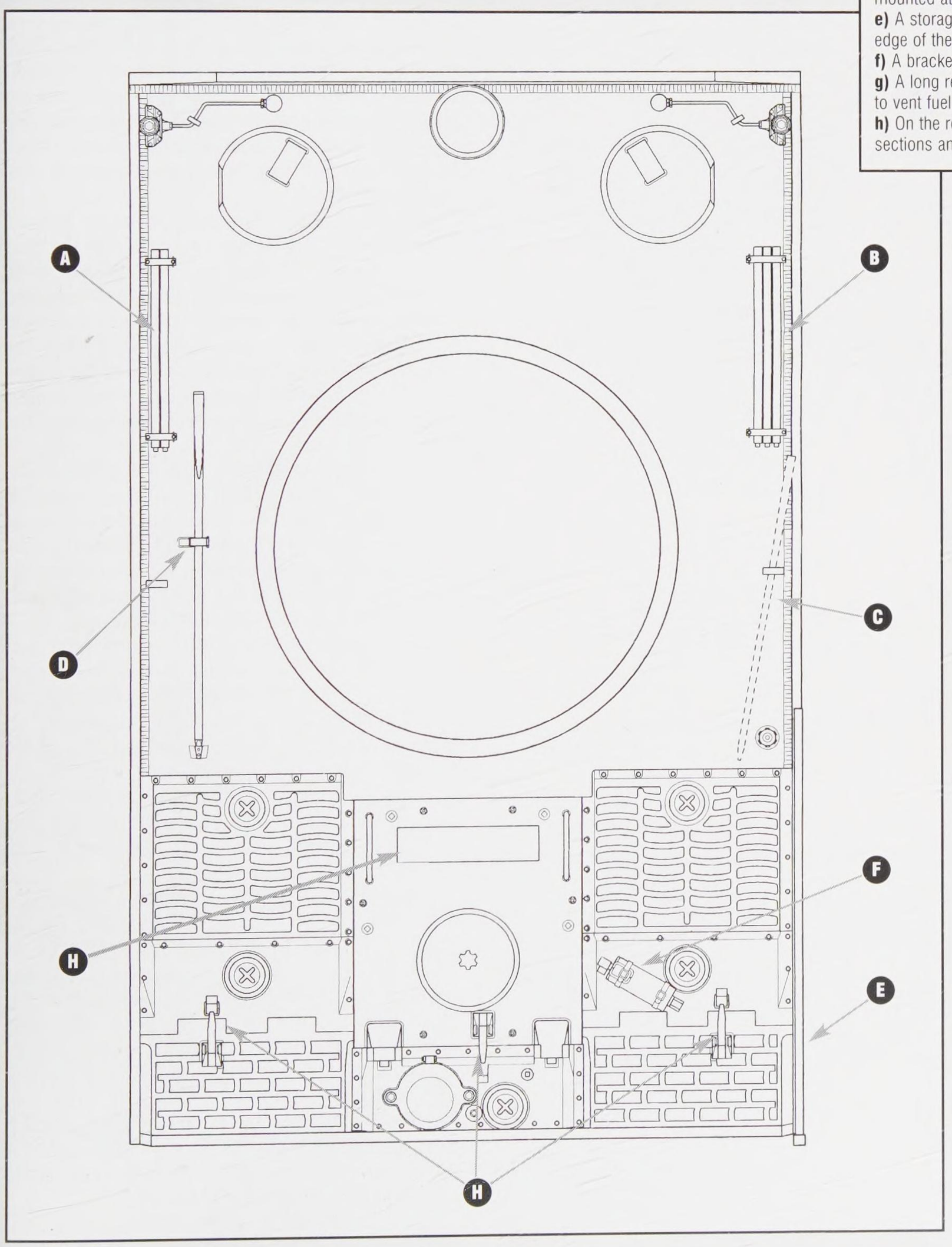
The first external changes to the Tiger I appeared in August 1942. Fasteners and brackets were added to the top deck to stow five gun-cleaning rods, two on the left **(a)** and three on the right **(b)**. Two wrecking pry bars were also added, one on each side of the turret **(c, d)**. Photos show the first tanks issued to the s.PzAbt. 502, in August of 1942, had two 1800mm bars mounted at an angle, as shown in c.

e) A storage tube for a spare radio antenna rod was added along the top edge of the right rear side of the hull.

f) A bracket for a fire extinguisher was added on the rear deck.

g) A long rectangular slit was cut into the forward part of the engine hatch to vent fuel fumes from the engine compartment.

h) On the rear deck, pivoted hooks and latches were added to hold the grill sections and engine hatch when they were opened.



In the rear of the hull sat the Maybach V-12 HL 210 P45 engine, which delivered 650 hp at 3000 rpm. The engine had three vortex air cleaners, four Solex carburetors, two magnetos, four mechanical fuel pumps, an electric starter, an inertia starter for external cranking, a generator, water-cooled oil cooler and an automatic fire extinguisher system. A governor controlled the engine to prevent excessive speeding.

The turret drive was set in the center of the drive shaft from the engine to the transmission. The turret drive was a power take-off (PTO) which allowed the turret to be traversed using hydraulic power. The system also drove a bilge pump from an auxiliary shaft. The turret drive was operated from the fighting compartment and could be engaged or disengaged as required.

The Maybach "Olvar" 40 12 16 transmission was a semi-automatic type with a built-in clutch. There were eight forward and four reverse speeds available. The "Olvar" was a pre-selective design—the driver could select a gear in advance and activate it with the clutch, when needed. In this way, the driver of Michel Wittmann's Tiger in Villers Bocage preselected a reverse gear while still moving forward up a rise in the main town road. When the Tiger crested the rise, it faced a troop of British Shermans. The driver was able to throw the Tiger into reverse and back off the rise before the British crews could fire accurately to hit the tank. Maximum speed in 8th forward gear was 45 kph (28 mph).

The L600 steering mechanism was a regenerative type, like the British Merritt-Brown design, and made the Tiger very maneuverable for its size and weight. The radius of the turn depended on the gear selected. With the main transmission clutch disengaged, the Tiger could turn in its own length, one track going forward and the other going in reverse. Revving the engine faster increased the speed of the turn. Stationary turns were discouraged as they put great stress on the tracks and suspension.

The brakes were mounted inside the hull, with

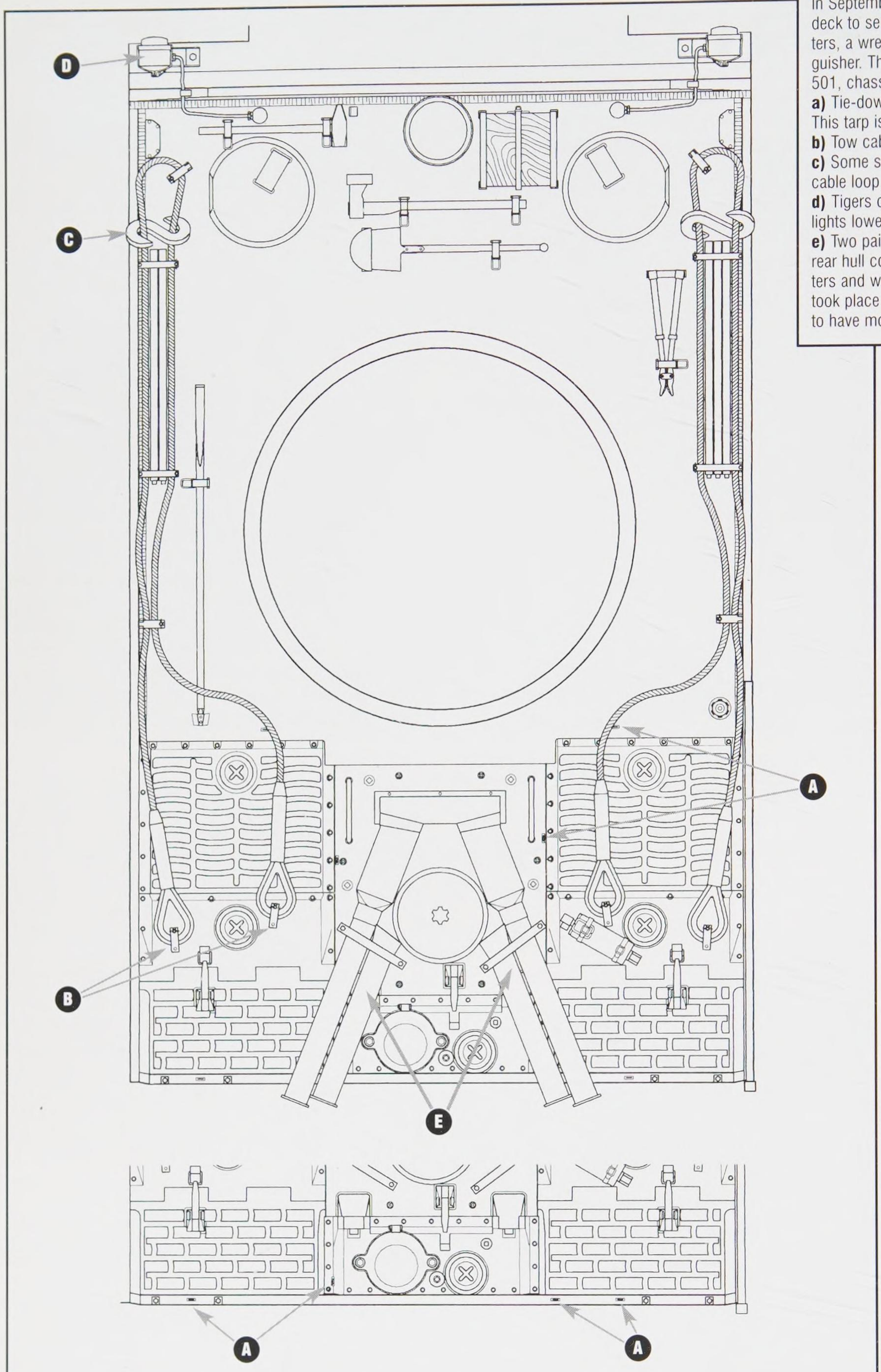


Fig. IA-2 September 1942
In September 1942, additional stowage brackets were added to the top hull deck to secure a hammer, axe, spade, wooden block for the jack, wire cutters, a wrecking bar, two 32mm diameter towing cables and a fire extinguisher. This scheme represents a tank of the 1st company of the s.PzAbt. 501, chassis number 250012.
a) Tie-down lugs to secure a tarpaulin were added around the engine deck. This tarp is rarely seen in photos.
b) Tow cable and brackets stowed back to front.
c) Some s.PzAbt. 501 Tigers had S-hooks stowed within the front tow cable loop.
d) Tigers of the 1st Company of the s.PzAbt. 501 had their Bosch headlights lowered to the front deck using specially fabricated brackets.
e) Two pairs of air filters known as "Feifel" air cleaners were added to the rear hull corners. Air was drawn into the inner tubes, passed through the filters and was then directed into the engine compartment. This modification took place at chassis number 250014, but the tank shown here was known to have mounted them, perhaps as a retrofit.

the final drive shafts passing through them. Using a foot pedal, the driver could apply the brakes equally to both final drives. Two manual steering levers allowed him to steer the Tiger by differential braking, though the tank was not as maneuverable when steered manually. A lever-operated parking brake was also installed.

The final drives connected the steering system to the drive sprockets, which drove the tracks. Each final drive contained shafts, a spur gear countershaft, a planetary gear and the drive sprocket assembly.

The suspension system on the Tiger was a "Schachtellaufwerk" type (interleaved roadwheels), as this was the best way to carry the weight of the tank without requiring the hull to be too long. Eight torsion bars on each side supported the chassis. The torsion arms led the torsion bars on the left side and trailed on the right. The torsion bars ran transversely across the lower hull floor and were accessible through removable panels in the floor. Three roadwheels were mounted on each torsion arm axle. The outermost roadwheel was removable for rail transport. Hydraulic shock absorbers were mounted internally on the two front and two rear torsion bars, backed up by rubber bumper stops.

The tracks for the Tiger were unique in that there were two versions: "Marschkette" (operational, or service tracks) and "Verladekette" (transport tracks). The service tracks were 725mm wide and the transport tracks were 520mm wide. There were 96 links per track run. Generally, the narrow tracks had to be fitted every time the Tigers were transported by rail. However, in areas where there were no clearance problems, Tigers were shipped by rail fitted with their wide service tracks, all the roadwheels and the side mudguards.

The upper fuel tanks held a total of 348 liters (92 gals.) and were located in the forward part of the side panniers, next to the engine. Two lower level fuel tanks were installed in the engine compartment and held another 186 liters (50 gals). 8mm thick armor plates protected the upper fuel tanks from shrapnel or bullets that might enter the top air intake grills. Screens placed over the grills prevented grenades or small explosive charges from falling through the grills into the cooling or fuel compartments.

The cooling system radiators were located directly behind the upper fuel tanks in the rear superstructure. Two fans and one radiator were installed on each side. The fan drives were connected to the engine compartment sidewalls and could be sealed for deep wading. When deep wading, the radiator compartment was sealed from the engine bay, and allowed to flood, which aided cooling. Holes behind the main engine mufflers allowed the water to drain out.

The ventilation system included a fan in the hull firewall, intended to cool the transmission by drawing air through its shroud and along ducts to the engine exhaust manifolds and then to the side-mounted cooling fans, where it was vented outside. In addition, a ventilator fan was located in the hull deck between the driver and radio operator.

The bilge pump was used to remove water that leaked into the Tiger during deep or submerged wading. The pump was connected to a pipe that carried the water up over the right side upper fuel tank. A hinged flap on the upper end of the pipe prevented water from flowing back down the line to flood the tank. A shaft from the turret drive mechanism drove the bilge pump. The overflow pipe could be used to add antifreeze to the pump to keep it from freezing in cold weather.

The electrical system contained a lighting system inside the Tiger and a starting system for the engine. Two batteries in the fighting compartment recharged from the generator when the engine was running. The lighting system included instrument panel lights, a light for the radio operator, two headlights—which were removable to prevent damage when driving in heavy brush, a waterproof taillight and turret interior lighting. The radios and intercom were protected from electrical interference by double insulation on all wiring and four interference suppressors (one for the fuel pump and three for the voltage regulator).

The automatic fire extinguishing system was

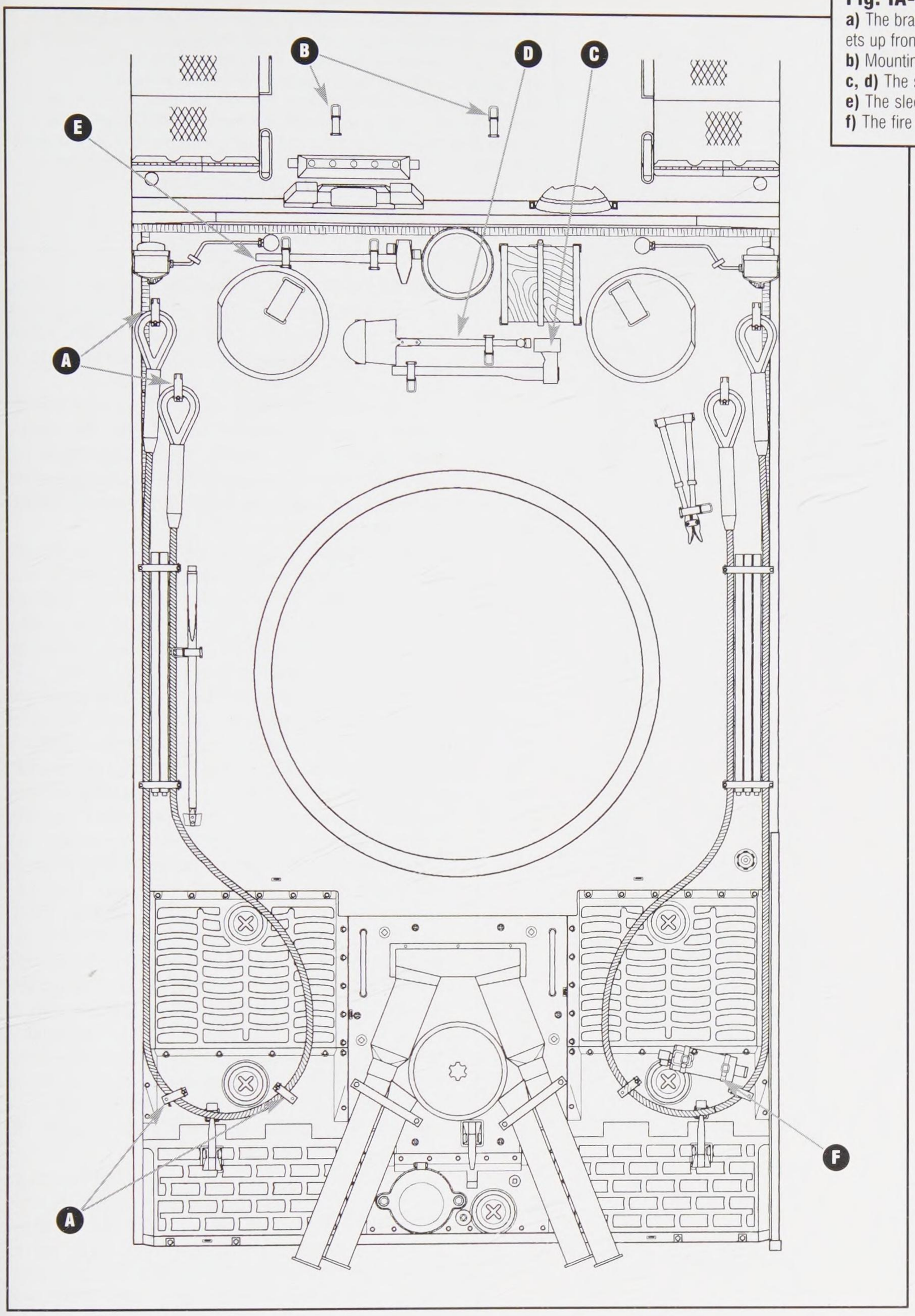


Fig. IA-3 December 1942
a) The brackets for the large tow cables were reversed, putting the eye brackets up front. The smaller brackets were now installed on the engine deck.
b) Mounting brackets were added to the glacis to hold a long-handled shovel.
c, d) The shovel and the axe were repositioned.
e) The sledge hammer was moved to the right.
f) The fire extinguisher was also repositioned.

installed in the engine compartment and was intended to fight fires in the carburetors and fuel pumps. At temperatures over 120 degrees Centigrade, the system discharged CB fire fighting chemical agent for seven seconds. If the temperature remained above limits, another discharge followed, also for seven seconds. The reservoir held three liters of CB chemical agent, enough for five discharge cycles.

Ammunition stowage for the 8.8cm KwK main gun was held in metal bins in the fighting compartment and in the armored side panniers over the tracks. sixty-four rounds were stored in the two side panniers, sixteen rounds to a bin (two on each side). Six rounds were in a reserve bin next to the driver—all these bins could hold either AP or HE ammunition. 16 AP rounds were stowed beneath the hull floor along the sides, and a final six rounds of AP were under the turret floor and could be accessed through a hinged hatch in the turret floor. Cloth bags containing 150 rounds of 7.92mm small arms ammunition for the MG 34s were hung from brackets and rails in the hull fighting compartment and the turret interior. Over 5,500 rounds of MG ammunition could be carried.

The hull and superstructure also carried a large number of externally mounted tools and equipment. These included: a tool box for track repair tools, turret stowage bin for spare tracks and a tarpaulin, 15-ton jack, hand crank for external starting using the inertial starter, 14mm thick cable for changing tracks (15 meters long), fire extinguisher, axe, sledge hammer, wire cutters, wood block for the jack, two 32mm thick tow cables (8.2 meters long), six main gun cleaning rods, shovel, spade, crowbar, engine deck air intake cover plate and four tow shackles for attaching tow cables to the tank hull.

The turret assembly was set into a circular opening in the center of the hull top deck. The turret was composed of the following items: turret armor body with turret ring assembly, gun mount and mantlet, main gun spring counterbalance assembly, internal gun travel lock, coaxial MG 34 and mount, main gun sight and mount, turret traverse drive, gun elevation system, firing circuit system, commander's cupola, vision slits, loader's hatch, crew seats, electrical system and internal equipment stowage.

The turret body and turret ring formed the major structure. The turret body had two 100mm thick front plates set into the forward ends of the 80mm thick sidewalls, which were bent into a horseshoe shape. The turret was asymmetrical, with the right side closer to the turret centerline than the left side. This was done to center the gun on the turret center. The 25mm thick roof plates were welded into the sidewalls. There was a partial plate 40mm thick across the front of the turret roof.

Vision slits with armor glass blocks were installed on both forward sides of the turret. Two pistol ports were placed on the rear quarters of the turret sides and were intended for self-defense, with the MP 40 machine pistol carried in the turret. The commander's drum shaped cupola was located aft of the center of the roof on the left side. The loader's hatch was to the right of the cupola and the armored ventilator fan cover was on the center rear of the turret roof. The turret ring was welded to the bottom of the turret body. An inflatable rubber sealing tube was fitted between the inner turret wall and the outer wall bearing ring. It was inflated during deep (submerged) wading to prevent water from entering the turret. A sealing ring was fitted to the inside of the turret support ring to prevent sand or dirt from getting into the turret race ball bearings.

A large bridge structure was bolted to the right front turret ring support. The bridge and support structure carried the loader's seat, elevation mechanism, gunner's seat to the left of the elevation mechanism and the commander's footrest. An azimuth indicator, marked from "1" to "12," was mounted on the turret ring. The turret platform was attached to the turret body by three struts. It carried the hydraulic turret traverse controls. The turret drive was also mounted on the platform, with a drive shaft to the traverse system on the turret ring.

The gun mantlet carried the 8.8cm KwK 36 main gun, a coaxial MG 34 and mount and the gunner's sight arrangement. The mantlet was a machined casting 85mm to 200mm thick. The mantlet armor was bored out for the main gun barrel, MG 34 coaxial weapon and the binocular T.Z.F.9b gunner's sight. The spaces and openings around the mantlet could be sealed for deep wading.

The main gun's long barrel required a spring counterbalance cylinder, which was mounted on the forward right side of the turret ring. A gun travel lock was mounted on the turret roof above the breech. Two hooks on the travel lock engaged studs on the breech block. A coaxial MG 34 was mounted to the right of the main gun. A frame on the coaxial mount held two 150-round cloth ammunition bags, one with a belt of ammunition and the other to collect the empty cartridge cases. For deep wading, the hole in the mantlet for the MG 34 could be sealed with a plug.

The T.Z.F.9b was a binocular gunner's sight used for direct fire. Binocular sights were generally better for long term use, with less eyestrain than the monocular type. The front end of the sight was

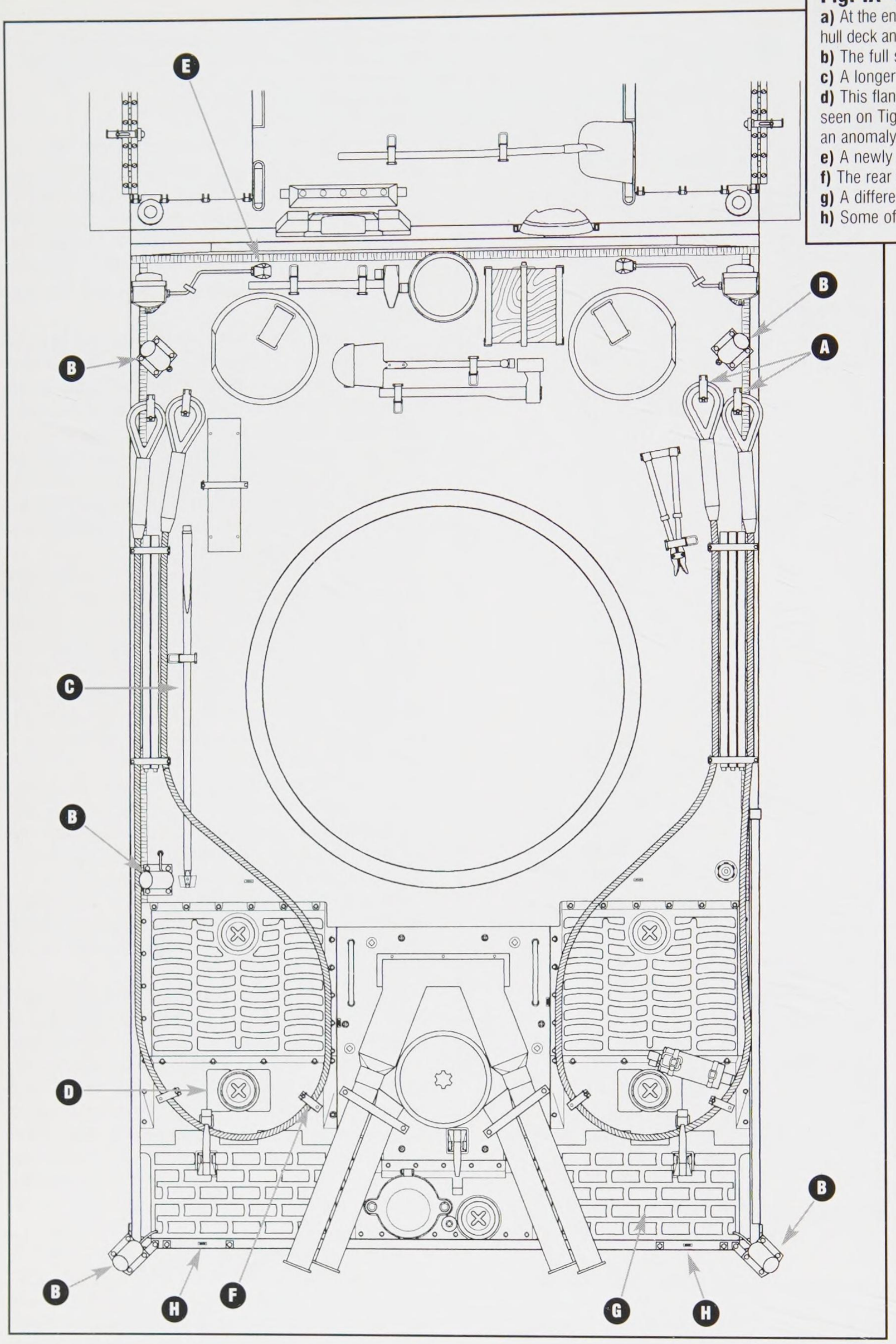


Fig. IA-4 January 1943

a) At the end of December, brackets for S-mine dischargers were added to the hull deck and the tow cable eye brackets and antenna stowage rod was moved.
b) The full set of S-Mine launchers is seen at their appropriate locations.
c) A longer pry bar was now installed at this location on the hull.
d) This flange is first seen at this time. However, the "older" style can still be seen on Tiger Is as late as June, 1944. It is theorized that this flange may be an anomaly in the casting of these parts, due to a high number of parts cast.
e) A newly shaped armored hub for the hull mounted Bosch light is added.
f) The rear tow cable brackets were spaced further apart.
g) A different shaped grill casting is seen at this time.
h) Some of the engine tarp tie-downs were relocated.

attached to the sight mount and the rear was suspended from the roof by a pivoting arm. The sight reticule was adjustable for range (out to 4,000 meters) and also for leading moving targets. For deep wading, the openings for the sight could be sealed with watertight plugs.

The hydraulic turret traverse drive was operated using a foot pedal on the turret platform. A manual clutch engaged and disengaged the powered traverse drive. At maximum drive speed, the turret could be traversed 360 degrees in 60 seconds. The gunner could also turn the turret manually, assisted by the tank commander when necessary. One turn of the gunner's hand wheel turned the turret 1/2 degree; 720 turns were needed to rotate the turret 360 degrees.

The elevation mechanism for the 8.8cm KwK was operated with the gunner's right hand (the left hand turned the traverse hand wheel when necessary). The elevation gearbox was below the gun breech. A grip lever by the elevation hand wheel allowed the gunner to fire the gun without taking his hands off the hand wheels. The gunner fired the coaxial MG 34 using a foot pedal on the turret platform floor.

The commander's cupola was bolted to the turret roof and served both as an access hatch for the tank commander and gunner and as the command and observation station for the tank commander. The cupola was a cylindrical armored drum with five vision slits, protected with heavy armor glass blocks 90mm thick. The glass blocks could be replaced easily and the frames were padded to protect the commander. A second, smaller azimuth scale was installed in the cupola, and was driven by a shaft from the turret traverse drive. It rotated opposite to the turret's rotation to indicate the turret's position relative to the hull. The cupola hatch was attached with a double hinge and stayed upright when opened. It thus provided some protection to the commander from small arms fire. Three latches locked the hatch closed and a key could be used to lock the hatch from the outside.

Two vision slits with armor glass blocks were installed in the forward turret walls. The armor glass blocks were 90mm thick and could be replaced easily if damaged. The glass block frames had head and nose pads and could be sealed watertight for deep wading.

The loader's hatch mounted with two hinges. Four locking bars were opened or closed with a central hand wheel. This could be tightened to seal the hatch for deep wading. Like the commander's cupola hatch, the loader's hatch could be locked from the outside with a key when the crew was absent.

The two pistol ports in the rear quarter walls of the turret were opened to allow the crew to fire at nearby enemy infantry. Internal armor shutters opened and closed the ports. The pistol ports could also be sealed for deep wading by fitting plugs in them.

The crew seats provided efficient seating arrangements for the turret crew. The commander had two seats, one upper seat when looking through the open cupola, and a lower seat used when the tank was buttoned up and he used the cupola vision slits. The upper seat could be folded down to serve as a backrest for the lower seat. The gunner's seat was bolted to the left end of the bridge structure in the forward turret. The loader's seat could be swung out of the way when not in use and was mounted on a pole bolted to a block supporting the gun elevation mechanism. The seats were metal framed, fitted with cushions covered in black artificial leather. At one point, brown artificial leather was used, due to a shortage of black material.

The 12-volt tank battery powered the firing circuit. The turret ventilator fan was electrically driven and extracted fumes and smoke from the main gun out the top of the turret roof. Three turret lights were mounted under the roof and had rotating covers to adjust the amount of light. Additional lights were used for the gun sight reticules and the azimuth indicator. When required, a hand held light could be plugged into a receptacle.

Most Tigers had one Fu 5 radio set, located above the transmission in the forward hull. Company headquarters and platoon leader tanks had two Fu 5 sets and one Fu 2 set installed. The radio antenna was located on the forward right side of the engine deck. The intercom system connected all the crew members except the loader, so they could communicate by voice.

The large rear turret stowage bin was used to carry spare track links, pins and tools, and a large tarpaulin. It could be adapted to carry other equipment, as the crew desired.

The Tiger was also built as a "Panzerbefehlswagen" or command tank. There were several changes made to these vehicles, necessitated by adding radio sets in the turret. Two versions were built, the SdKfz 267 for long range communication with higher headquarters, and the SdKfz 268 for communicating with Luftwaffe

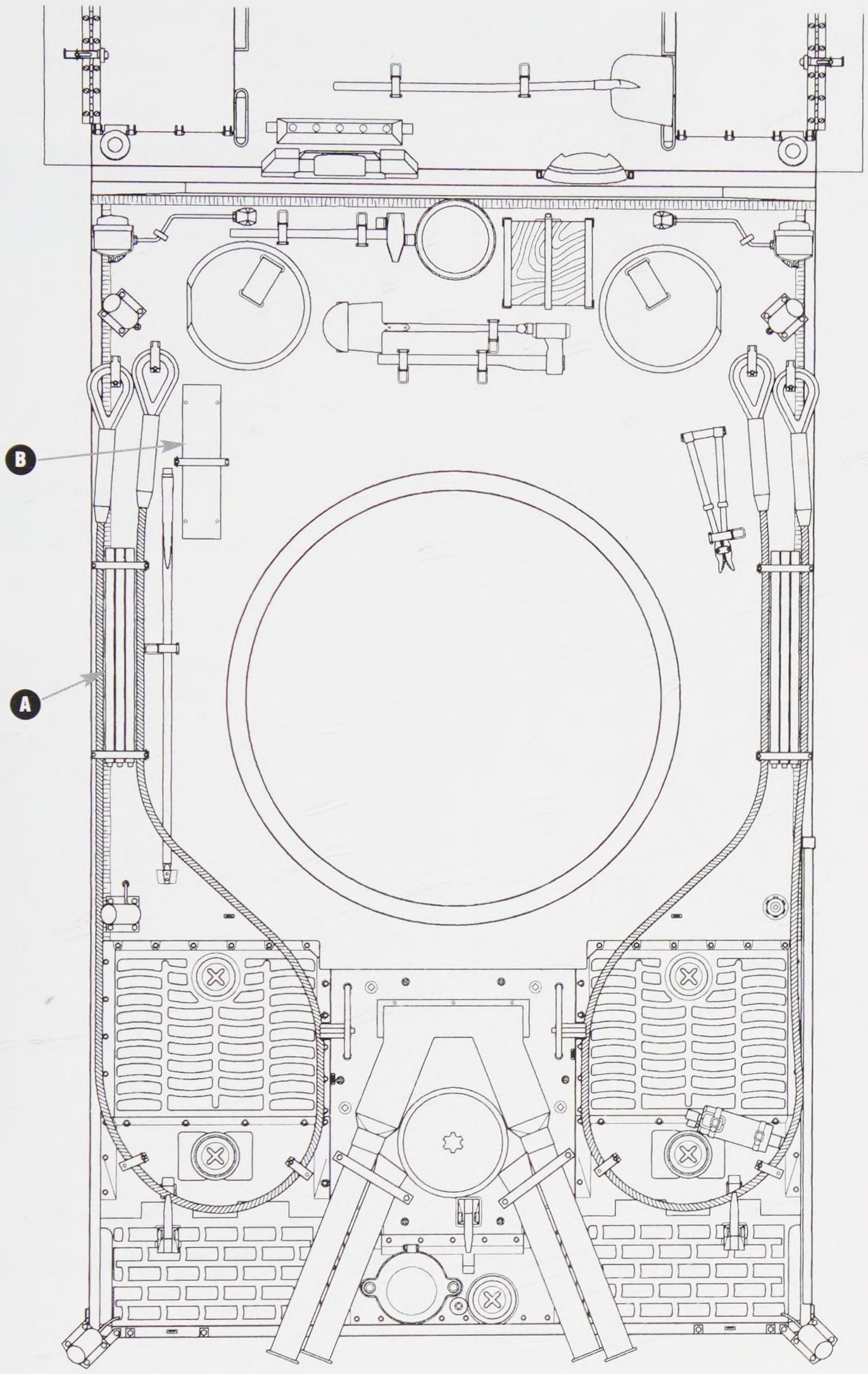
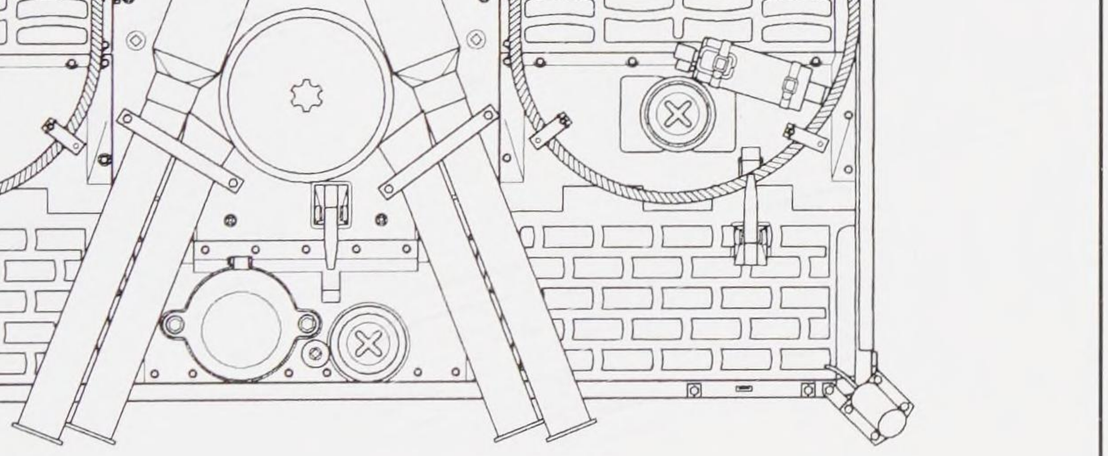


Fig. IA-5 February 1943
a) The brackets for the left side cleaning rods were changed to hold three rods instead of two, and all the brackets had to be relocated because the rod sections were shorter.
b) A long rectangular plate was added to the engine hatch to cover the ventilation slot. This was stowed in brackets next to the left side of the turret when not in use.

support aircraft. The difference was in the radio installation.

The major changes were: removal of the coaxial MG 34 from the main gun mount, replacing the loader with a radio operator, welding a plug in the mantlet to seal the hole for the coaxial MG, removing all ammunition stowage and accessories for the coaxial MG, welding a plug in the turret side view slit for the loader, welding a plug in the turret roof to seal the loader's periscope (in turrets that had this fitted), deleting 26 rounds of 8.8cm ammunition and eliminating the stowage bin next to the loader. New radios installed depended on the version being converted. The Fu 7 (or Fu 8) was mounted above the transmission, next to the hull radio operator. The Fu 5 radio components were mounted on the forward right wall of the turret in rubber-bushed frames designed to dampen vibration. The star antenna for the Fu 8 was mounted on the right side of the rear deck; the 1.4 meter rod antenna for the Fu 7 was mounted on the left side of the rear deck, and the 2 meter rod antenna for the Fu 5 radio was located on the rear turret roof. All these mounts had flexible bases that allowed the antennas to fold down when struck by an obstacle and return to the upright position without damage.

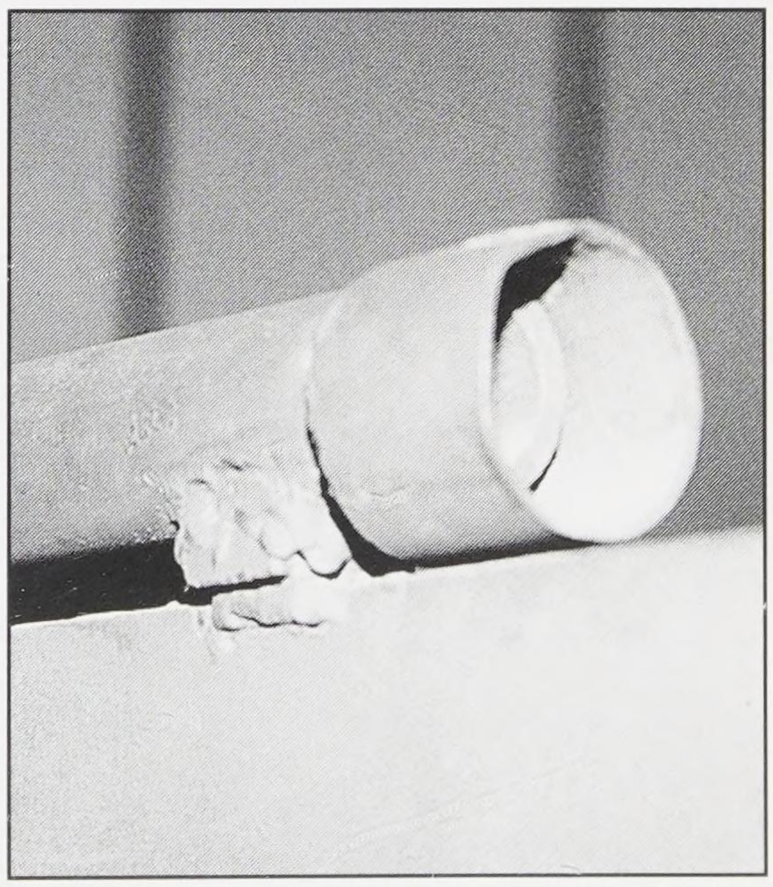


Production changes to the Tiger I

There was a considerable number of production changes to the Tiger I. Some resulted from combat experience, others from the continuing development of the components of the Tiger, while others resulted from materials or parts shortages that required deleting or modifying existing pieces or assemblies. A number of the changes were internal, such as new seals, gaskets, gear sets, etc., and were not visible outside the assemblies in which they were located. Others were located below floor panels or inside compartments, where they would be visible only when the Tiger was opened up for maintenance. This section will cover the details that would be visible to a crewman or observer and which would be seen on a model. The alterations, additions and deletions will be arranged on a month-to-month basis so the reader can track the changes that appeared with each new variant. There are literally dozens of detail versions of the Tiger E.

As originally built, the Tiger ausf E existed as described above. Very early in production, however, details that had been planned even before assembly began were introduced rapidly as they became available. As a result, there was a bewildering array of physical detail changes, large and small, during the first months of production. Many other Tigers were modified between being built and being issued for service, and Tigers were also modified in the field by forward units and crews. Some of the field changes were in accordance with modification orders, but others were ad hoc changes made by the units and crews themselves without official permission.

The drawings in this section are individually captioned and follow the chronological history of Tiger I changes. The drawings cover the tank by section and each section starts with the earliest changes and runs to the latest.



This metal tube is found on the right rear hull top and was used to stow spare antennae. This was introduced after August 1942. The tube originally had a swivel-type cap to close the end, but it is missing on this example.

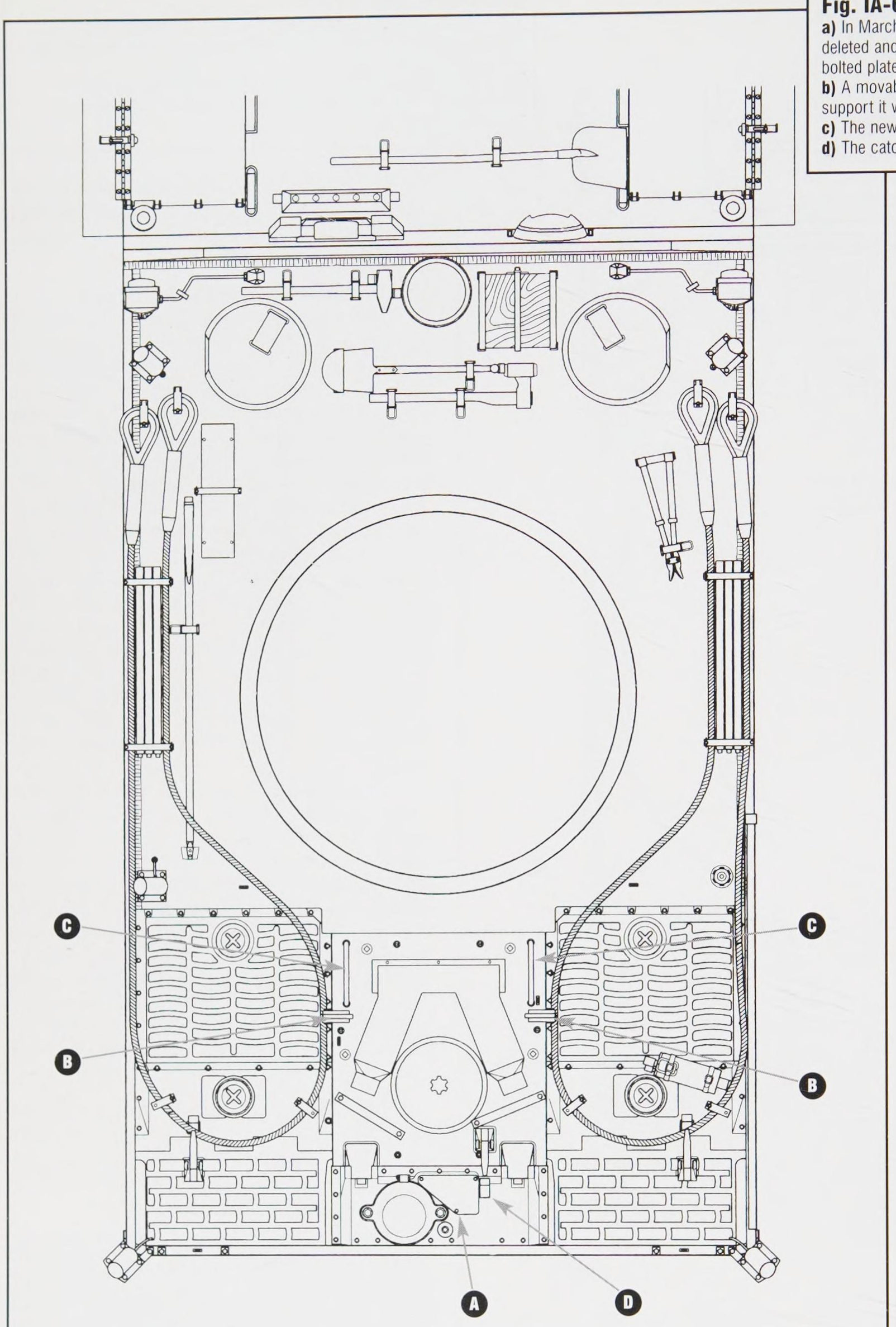
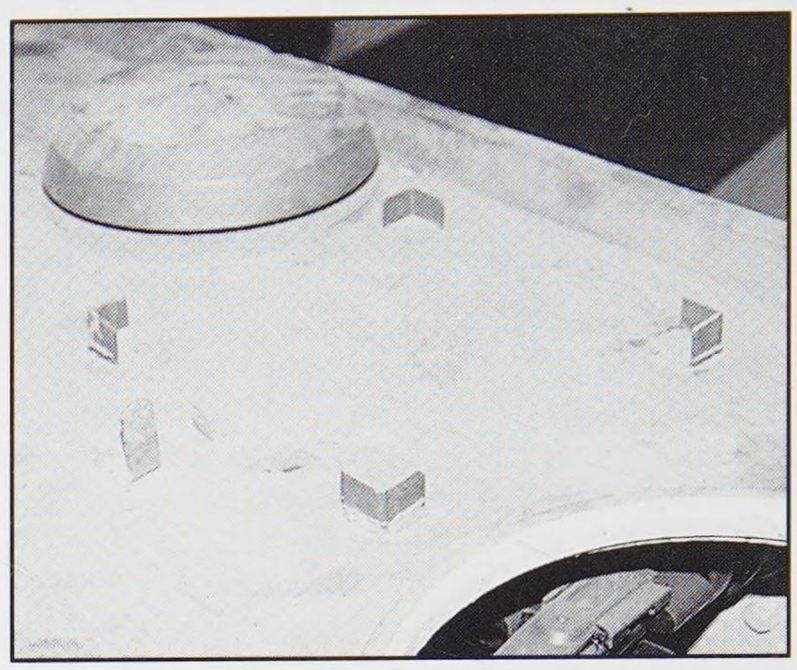
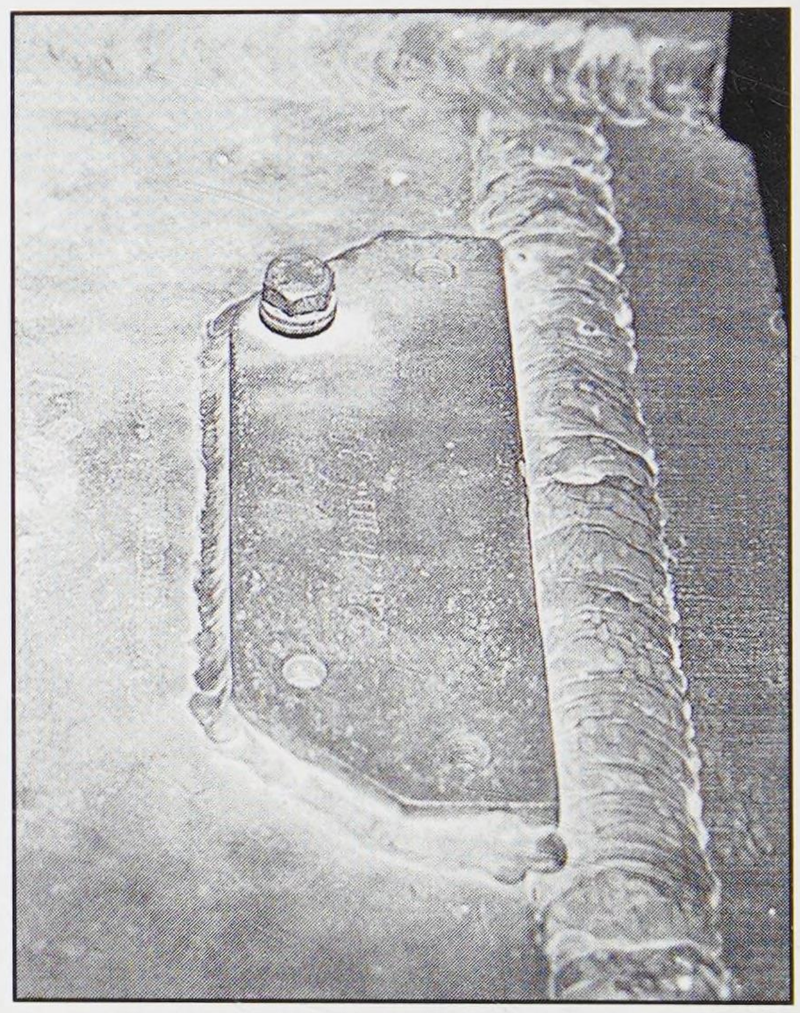


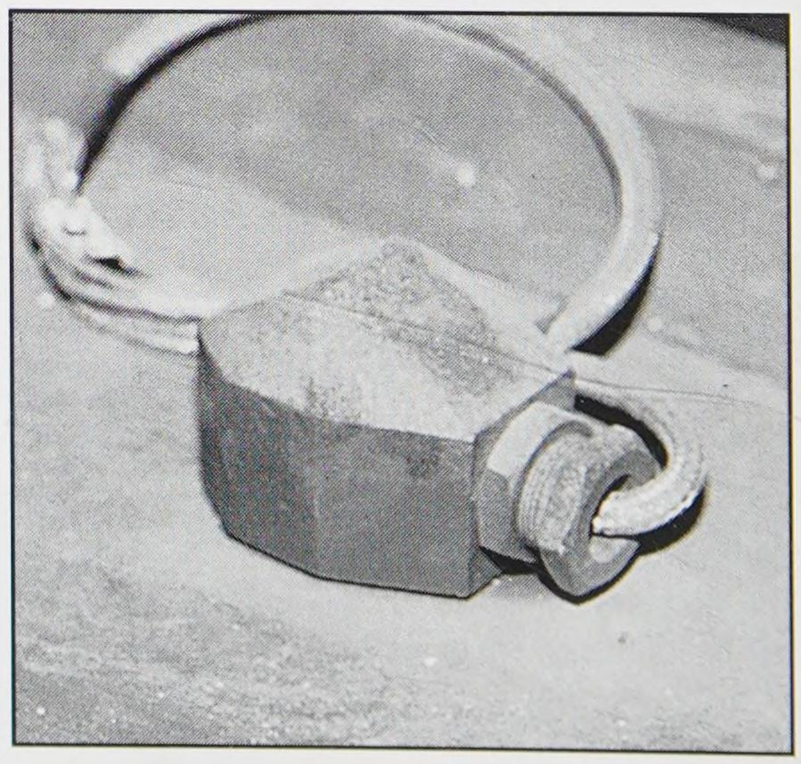
Fig. IA-6 March-April 1943
a) In March 1943, the cap over the ventilator on the engine hatch was deleted and a three-sided opening was cut out in the hatch, covered by a bolted plate.
b) A movable stop was added on both sides of the engine deck hatch to support it when it was opened part way.
c) The new stops on the hatch meant the hatch handles were relocated.
d) The catch hook for the rear stop was also relocated.



Just to the right of the forward hull ventilator is the attachment point for the jack block.



In early production, each of the Bosch lights was mounted on a matching plate that was welded to the upper hull. This is the right side plate.



This is one of two types of armor nuts used for the Bosch light wiring. Note the base nut and collar. **Left:** This is an example of the early style, double chamber Feifel air cleaners. (NARA)

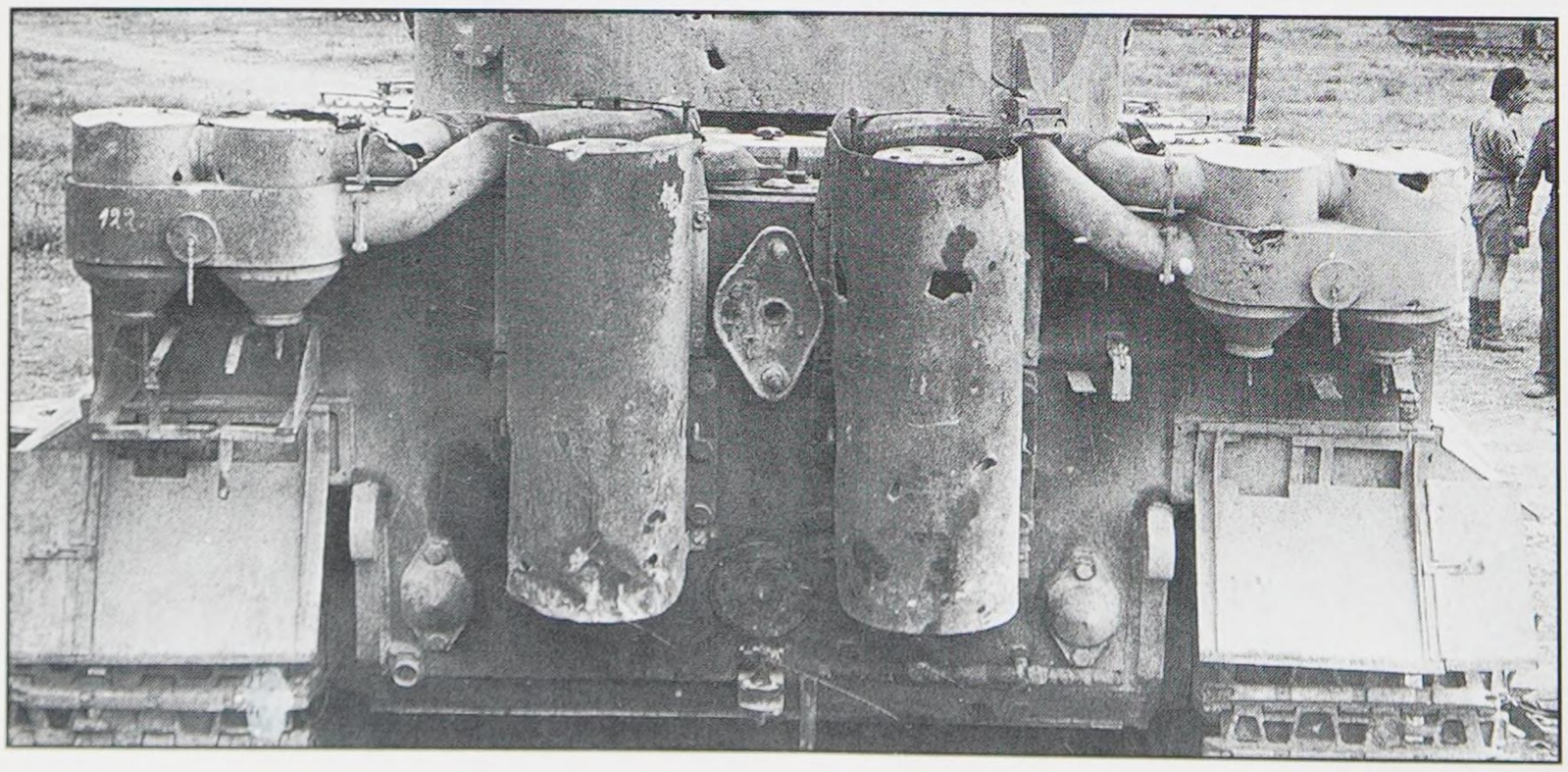


Fig. IA-7 August 1943 (Befehlswagen)

a) In June 1943, the two toggle bolts next to the bow MG mounting ball were deleted.

b) A tab was welded onto the glacis to secure a chain holding a sealing plug for the bow MG 34 ball mount.

c) The right side headlight was deleted. The left light was near the driver's hatch (**also see IC-3**).

Befehlswagen

Although production of Befehlswagen started before this date, the vehicle featured the following:

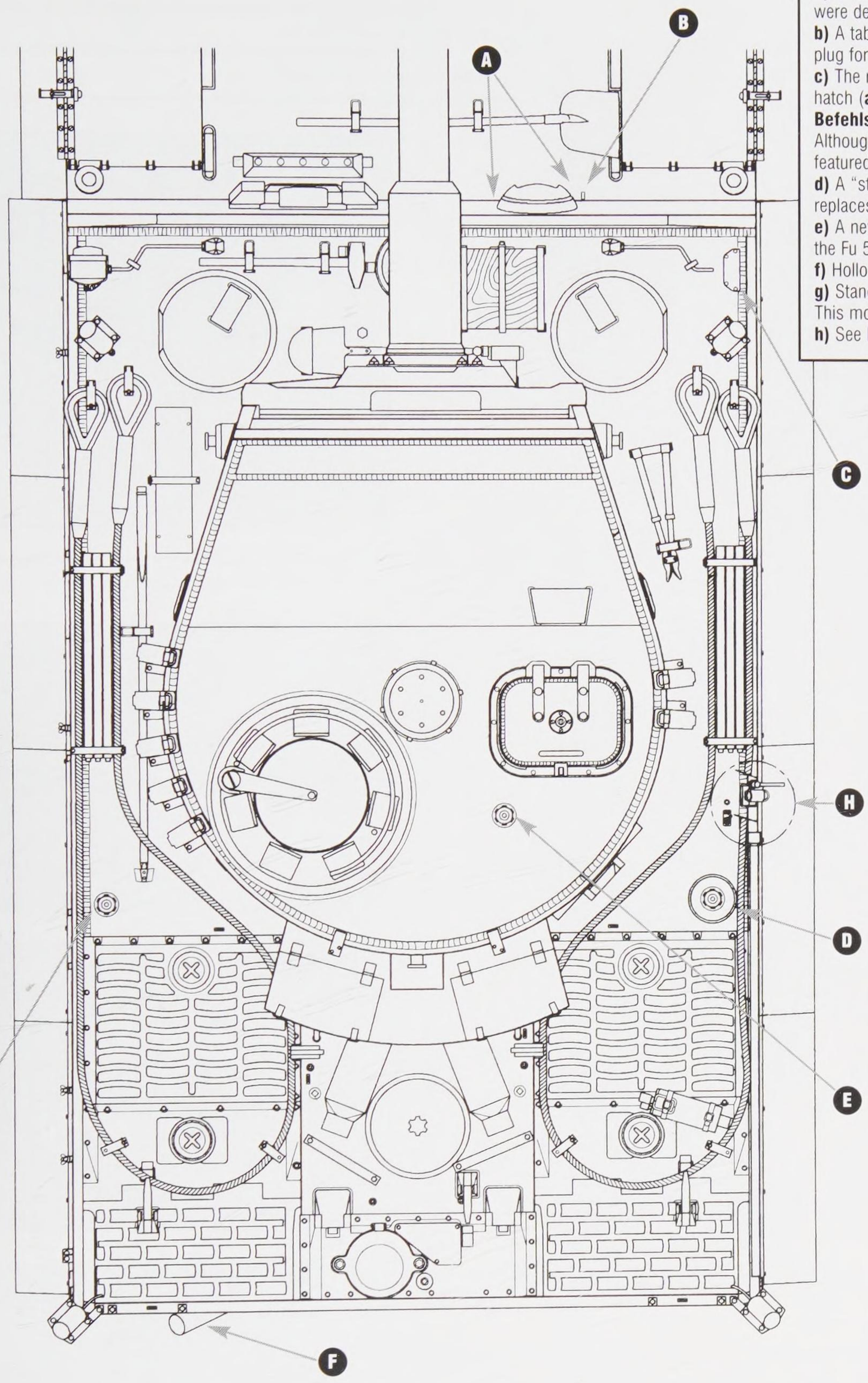
d) A "star" antenna (for an Fu 8 radio) with its base in an armored pot replaces the standard antenna.

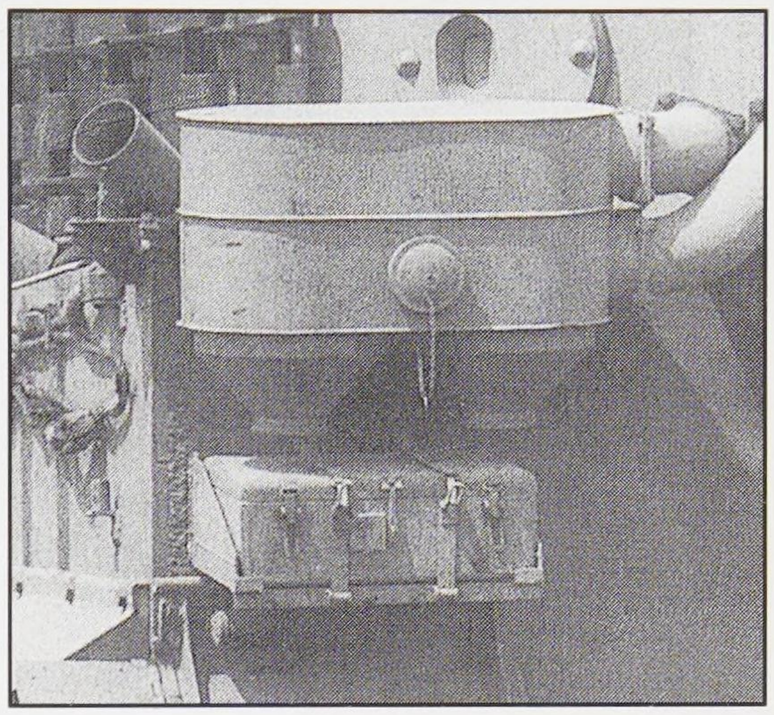
e) A new two-meter antenna and mount added to the turret roof for the Fu 5 radio.

f) Hollow tube welded to the rear deck to hold extensions for Fu 8 antenna.

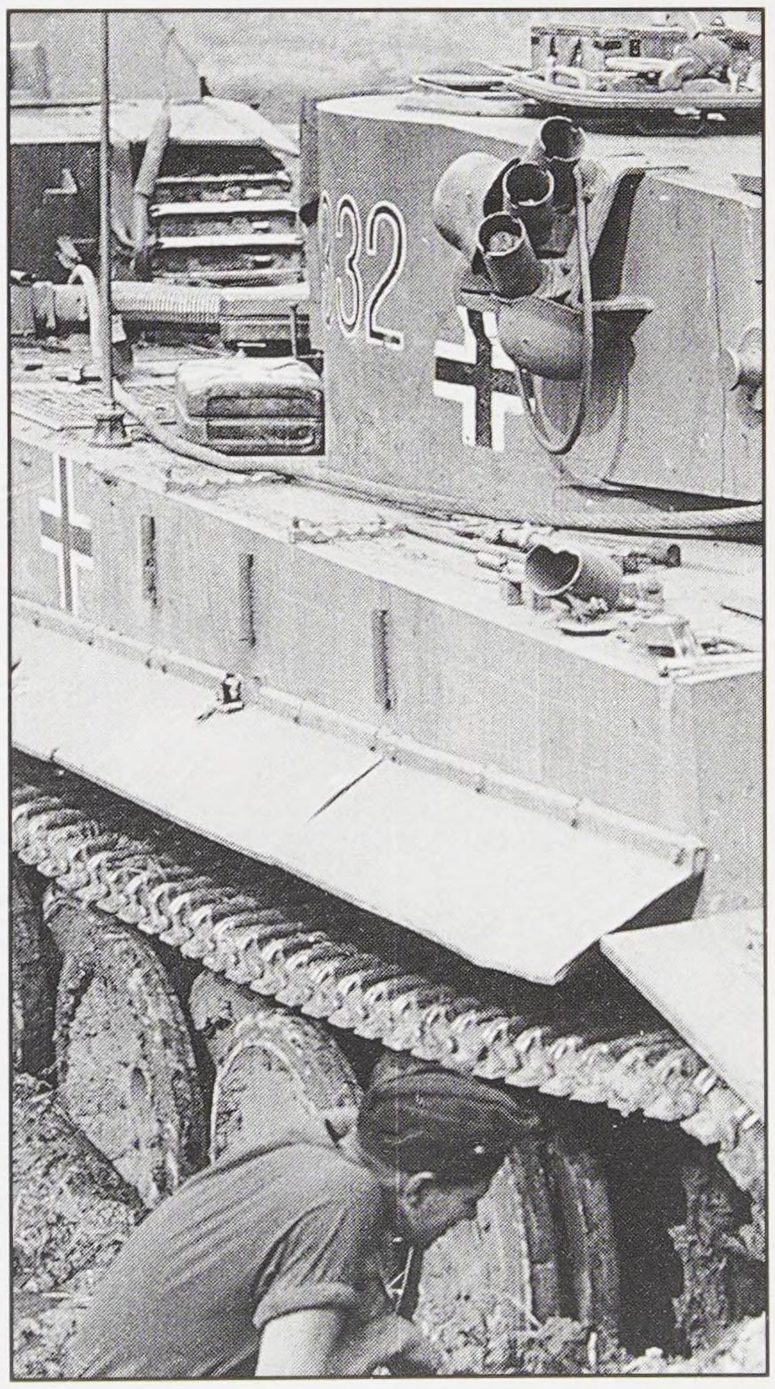
g) Standard 1.4-meter antenna for the Fu 7 relocated to the left rear hull. This mount replaces the S-Mine launcher in that area.

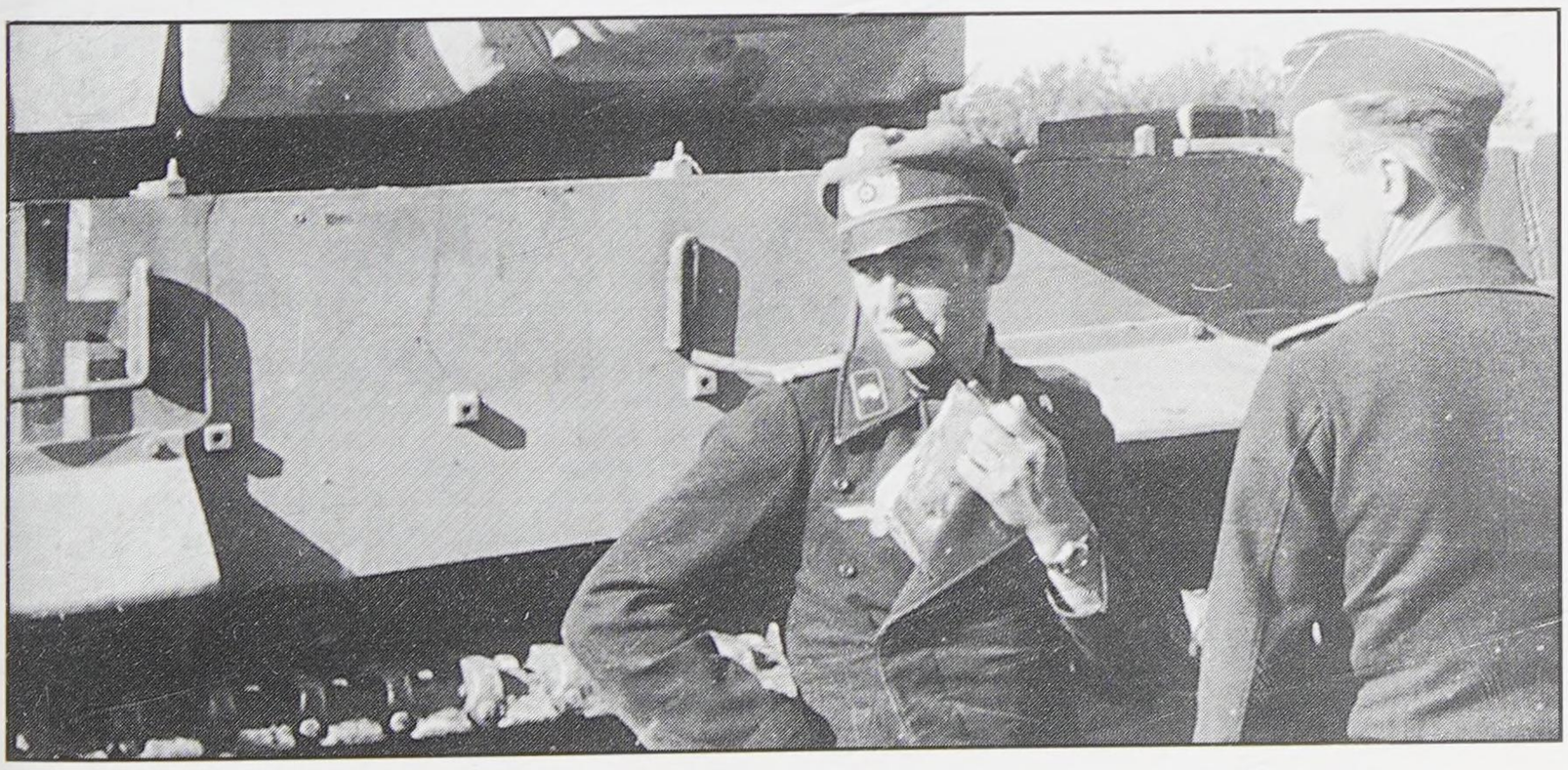
h) See IE-6 for a detailed view of this area.





This is an example of the later, single chamber Feifel air cleaners. (BA)





Above: The general arrangement of the right hand side upper deck can be seen here. Empty tow cable brackets and one of the S-Mine launchers can be seen, as well as an empty Bosch light socket. Tanks of the s.PzAbt. 503 are often seen with various brackets welded to the side of the hull. The most common use for these was to hold large logs or beams for unditching. Another example is seen at left. (both BA)

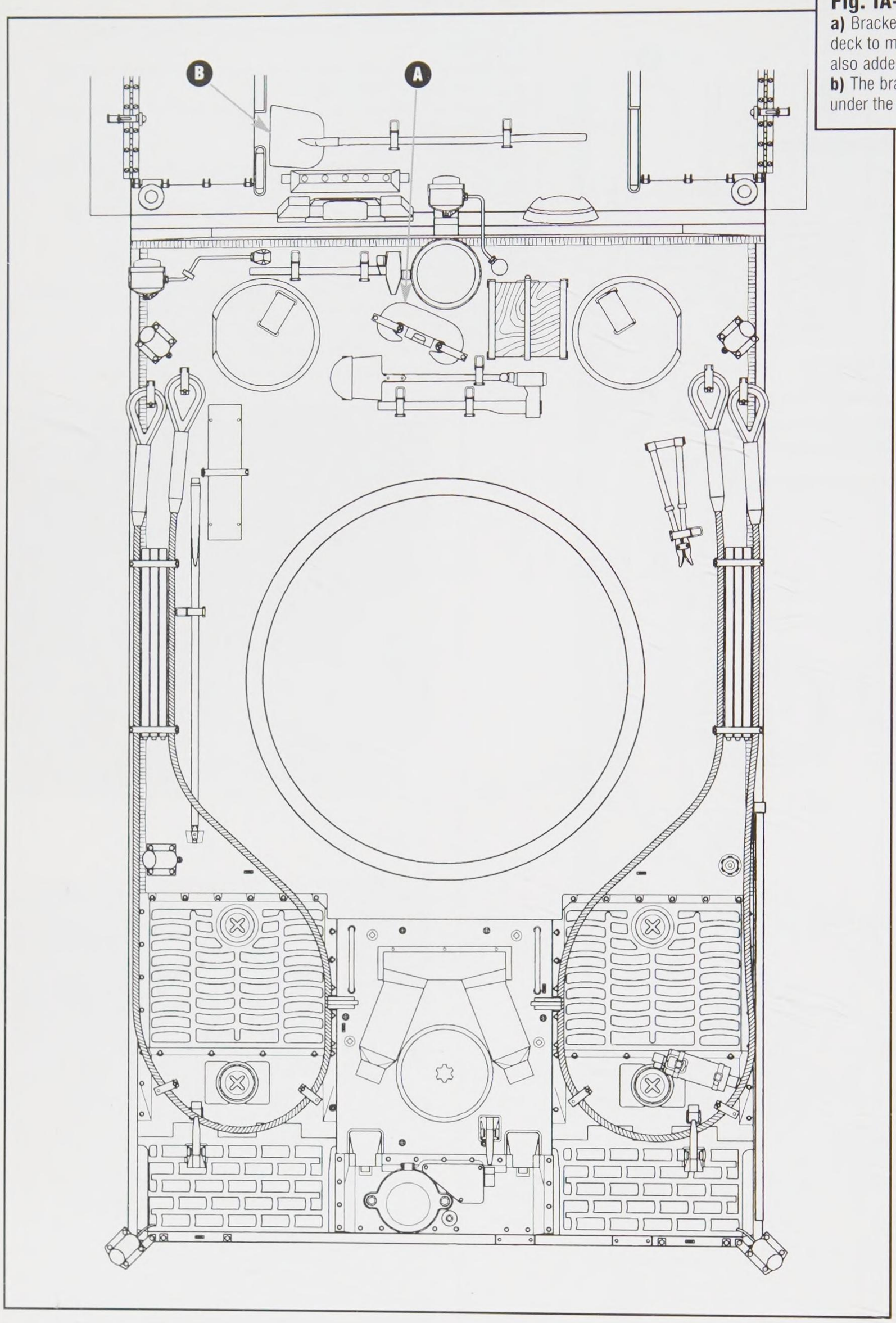
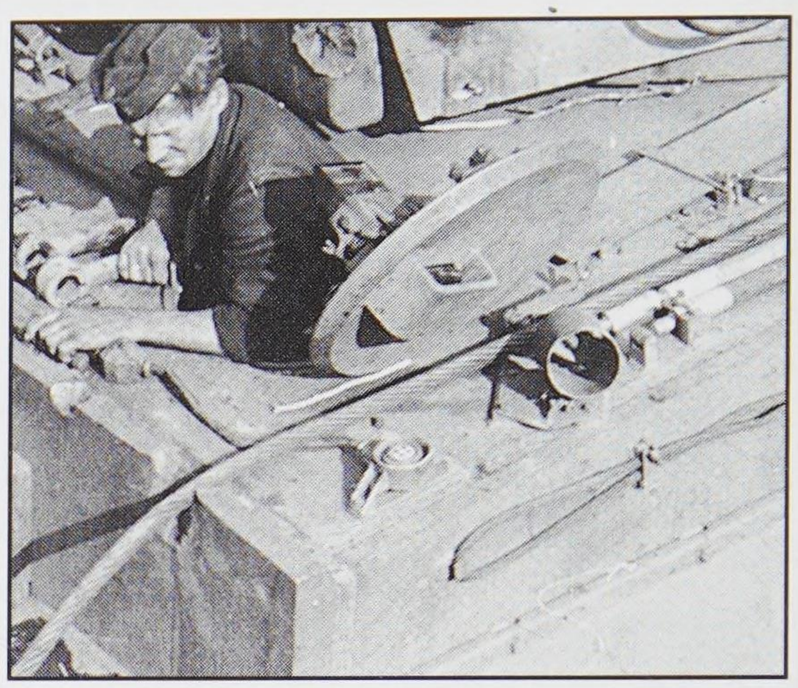
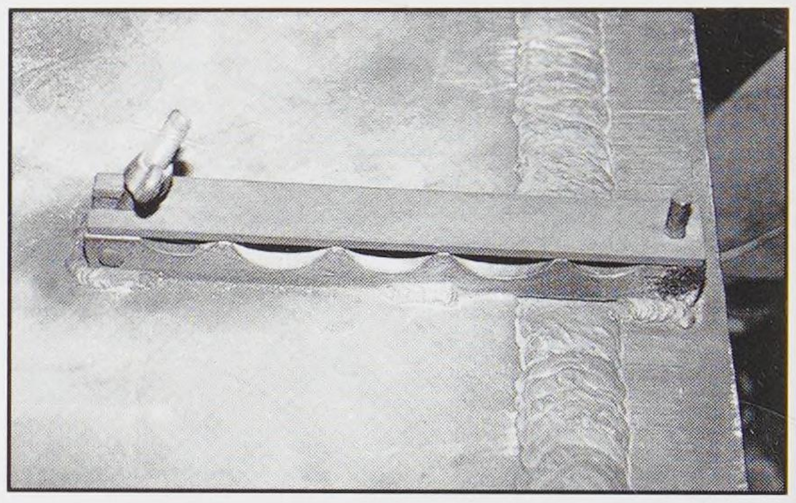
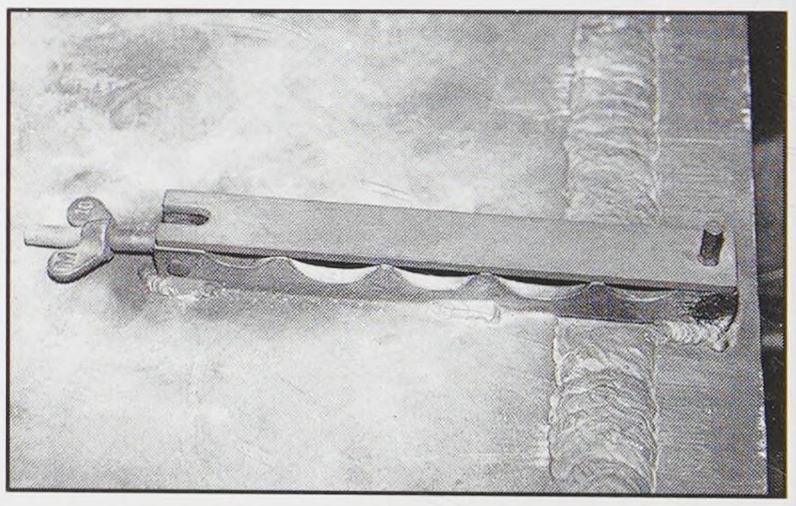


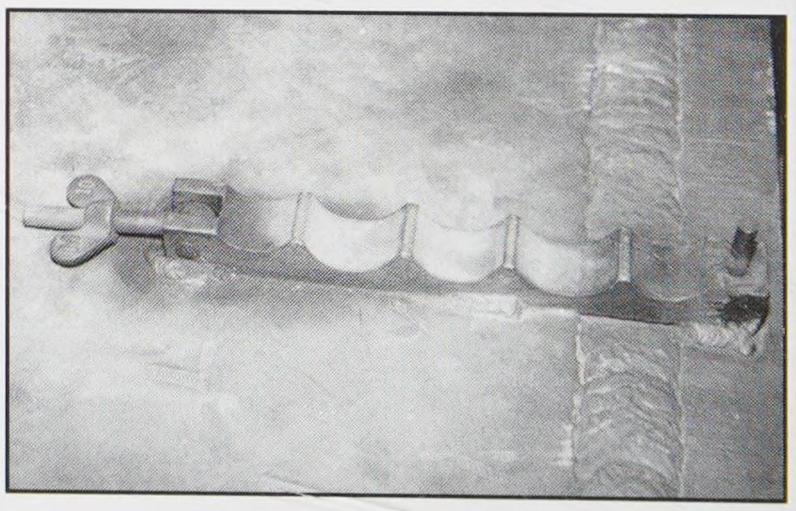
Fig. IA-8 September 1943
a) Brackets were added to the right of the driver's hatch on the hull top deck to mount a C-hook. At this time, another bracket for a C-hook was also added to the left hull rear.
b) The brackets for the shovel on the glacis were reversed, with the head under the driver's armor visor.

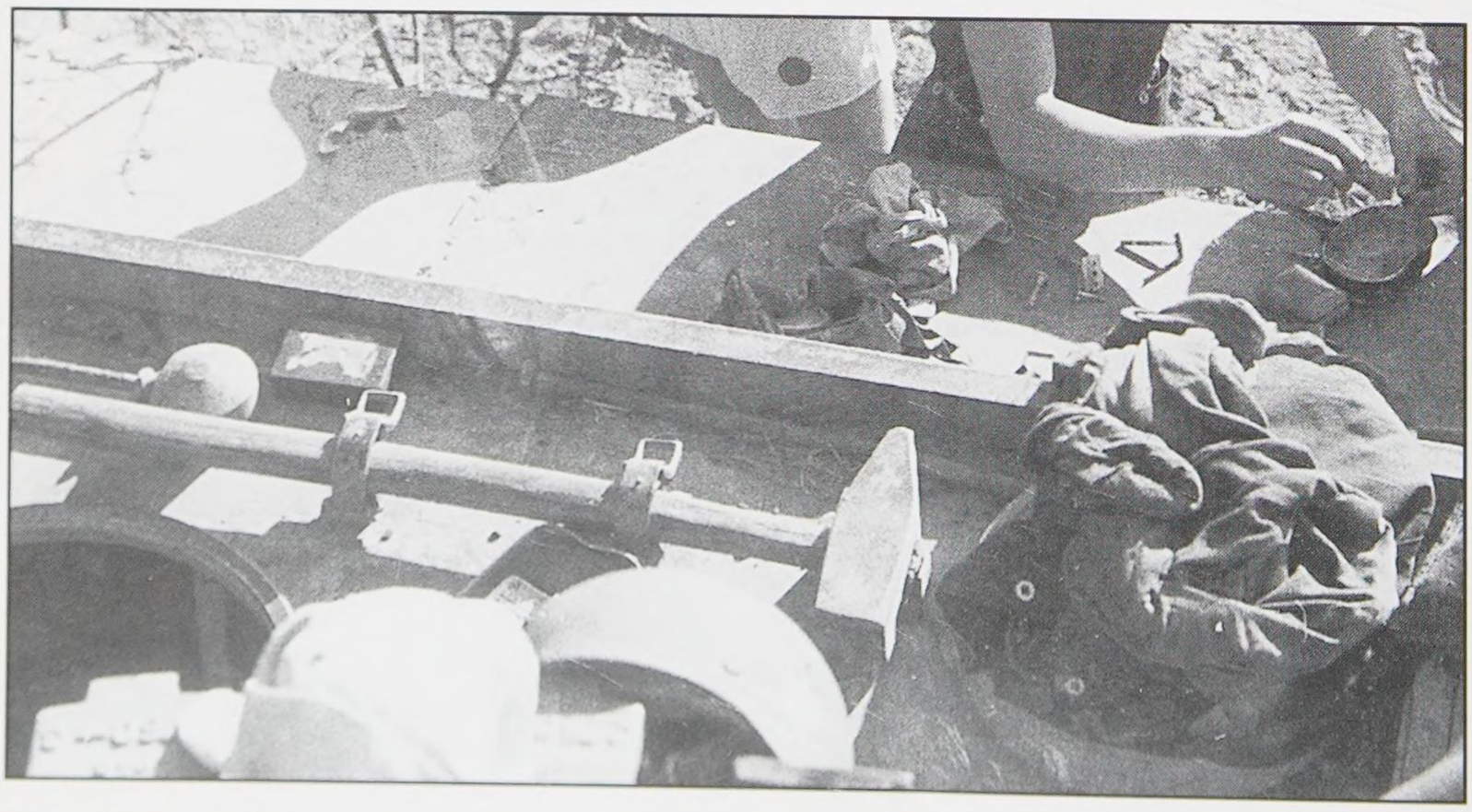


The Bosch lights could be removed and stowed inside the tank. The empty ceramic socket can be seen here. (BA)









The above three photos show the main clamp on the hull deck for the tow cables and the gun cleaning rods. The clamp was secured with a swiveling threaded rod and a wing nut. This can be seen lying on the deck in the center and bottom photos. The top bar of the clamp could also be swiveled back and forth and it is seen removed in the bottom photo. Also note that the clamp crosses over the main weld bead on the side of the hull and that the gap has been ground down to keep the clamp flat against the hull. **Left:** the sledgehammer is seen here installed on a May 1943 vehicle. Both clasps were raised slightly off of the deck so that both the head and the handle would sit level. The armored base for the Bosch light can be clearly seen in the left of the photo. (BA)

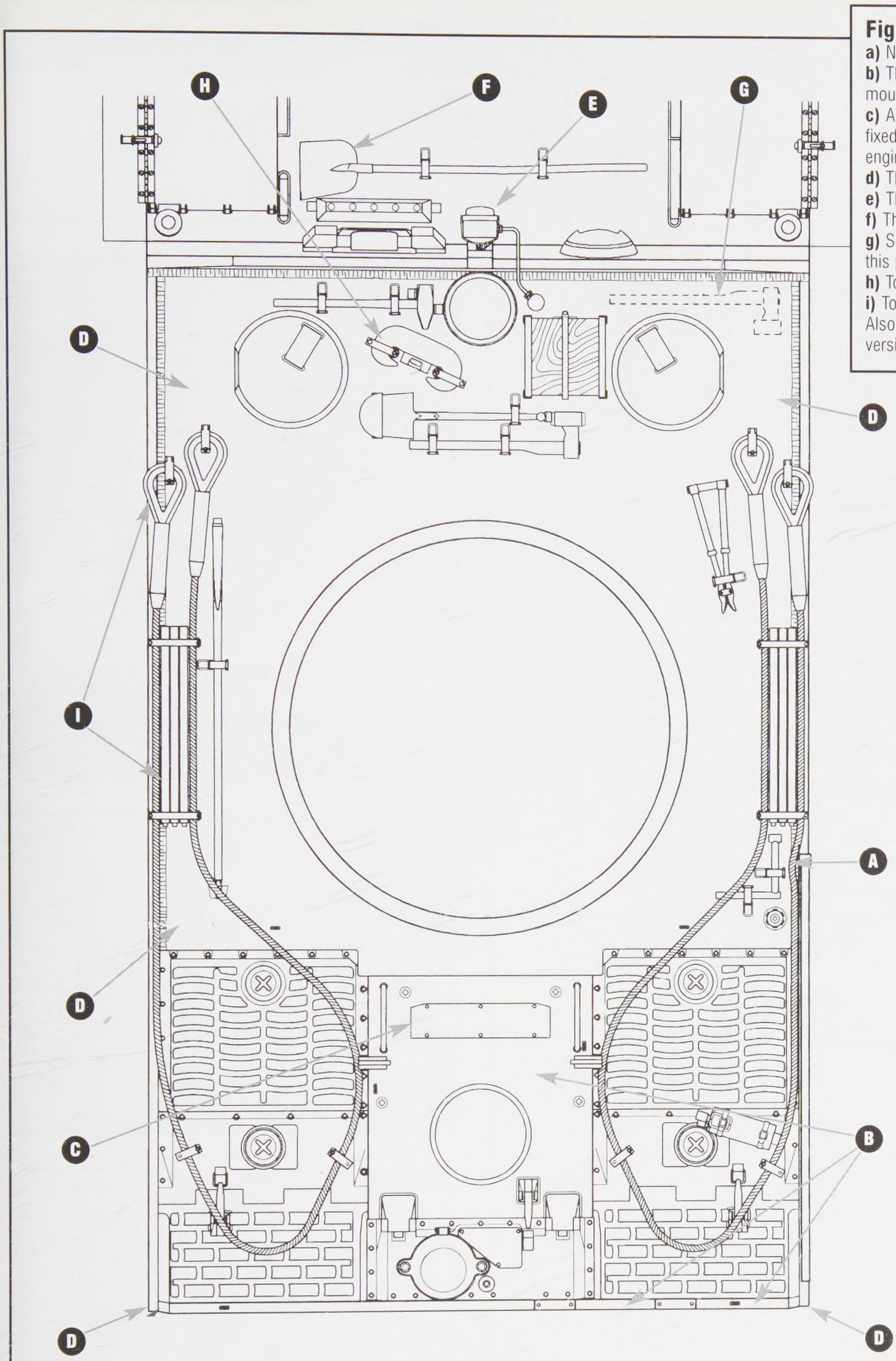
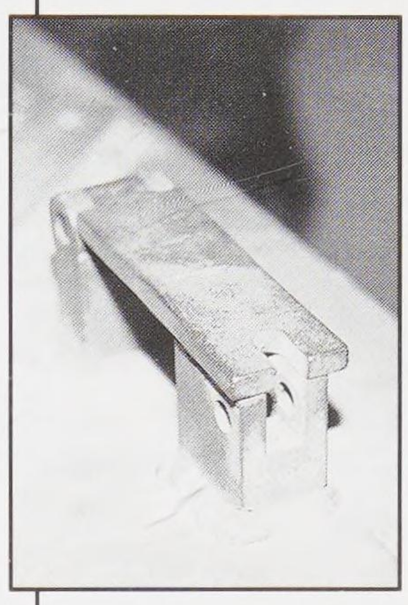
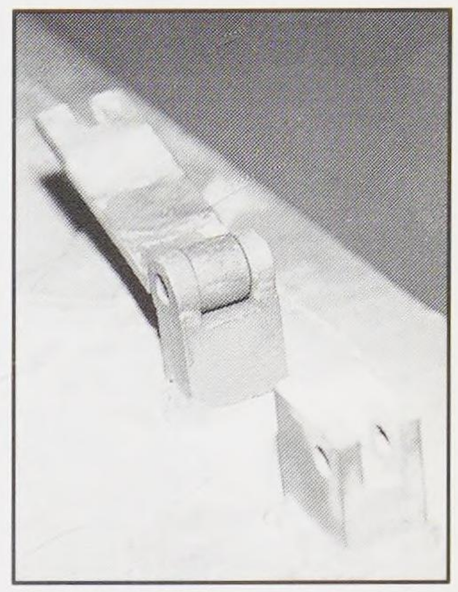


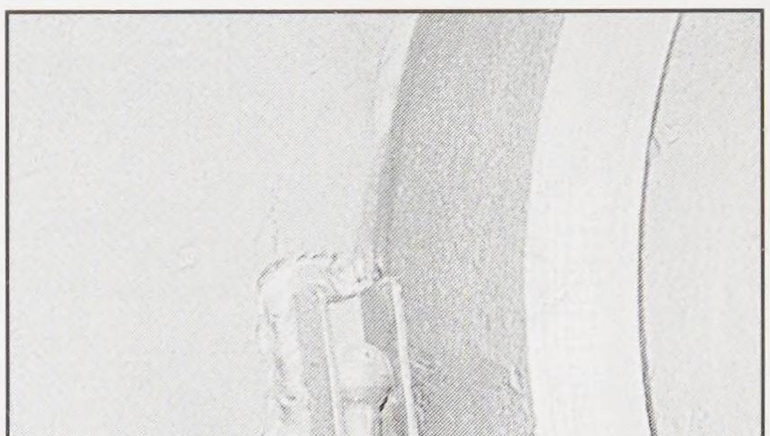
Fig. IA-9 October 1943

a) New brackets were welded to the top deck to stow the starter crank handle.
b) The Feifel air cleaners, ducts and brackets were discontinued. The mounting plates for the deleted Feifel air cleaners disappeared.
c) A few Tigers still had the Feifel mounting plates into December. A raised, fixed rectangular plate covered the ventilation slot in the forward end of the engine hatch.
d) The S-mine dischargers were dropped from the hull.
e) The single headlight was moved to the center of the driver's plate.
f) The direction of the shovel on the glacis plate was reversed.
g) Some tanks manufactured during this month have their axes located in this position.
h) Tow hook repositioned.
i) Tow cables and rods moved back.
Also by this date, a new internal gun travel lock was fitted in the turret. This version held the gun at -15 degrees elevation during travel.





The forward portion of each tow cable was secured with a smaller clamp. It was permanently hinged at the rear and the front portion was secure with a threaded shaft and wing nut that was identical to the larger clamp. This is missing here.



Above: In order to secure a cover over the front MG port, two threaded swiveling shafts were installed on either side. **Left:** Although it's not well known, the screens on the rear deck of the Tiger were composed of two types of mesh. The larger type is typically represented in after-market detail sets. Although the smaller type of mesh would be difficult to render in 1/35th scale, this detail should be of interest to anyone modeling a Tiger in a larger scale. (BA)

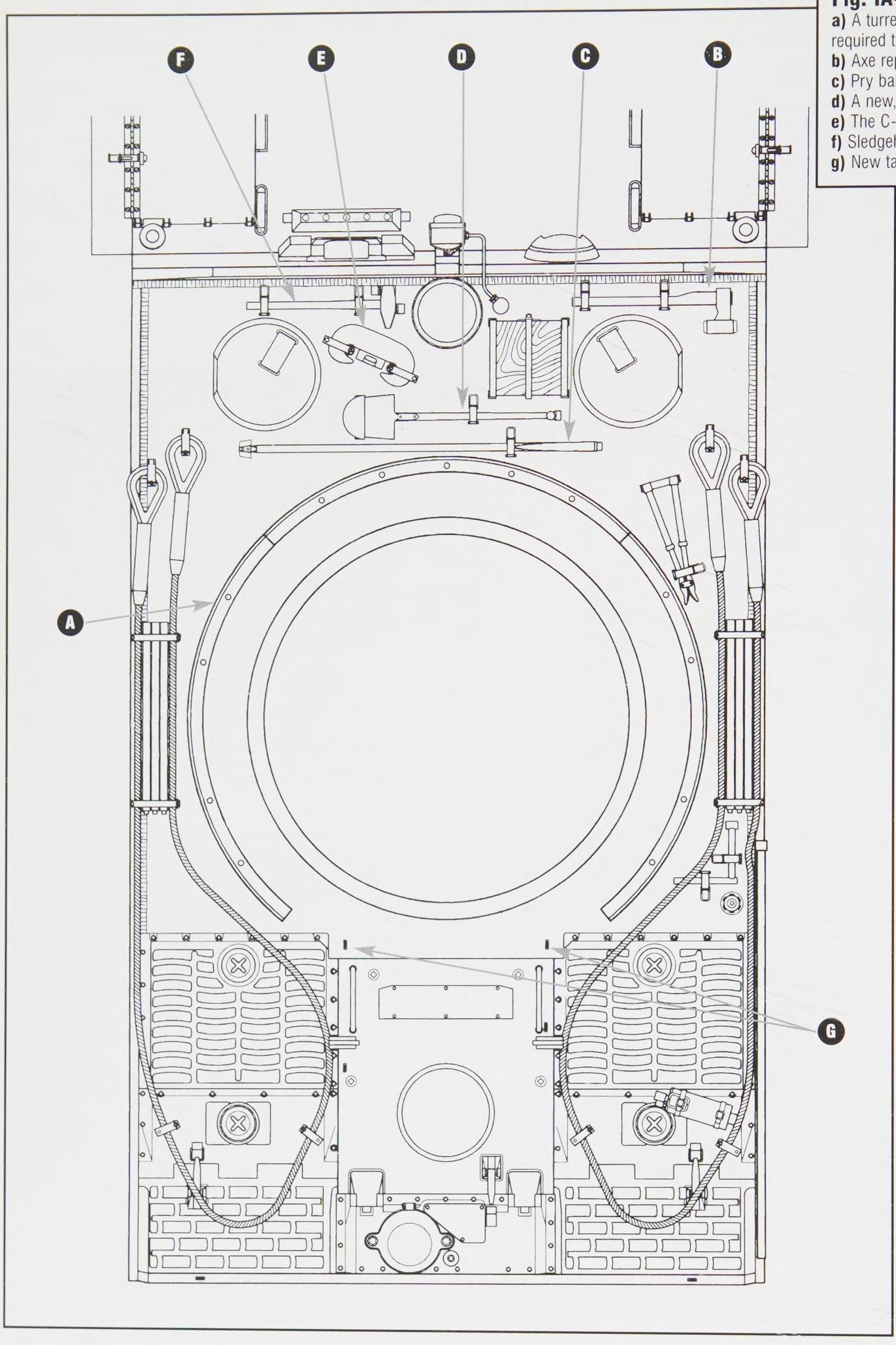
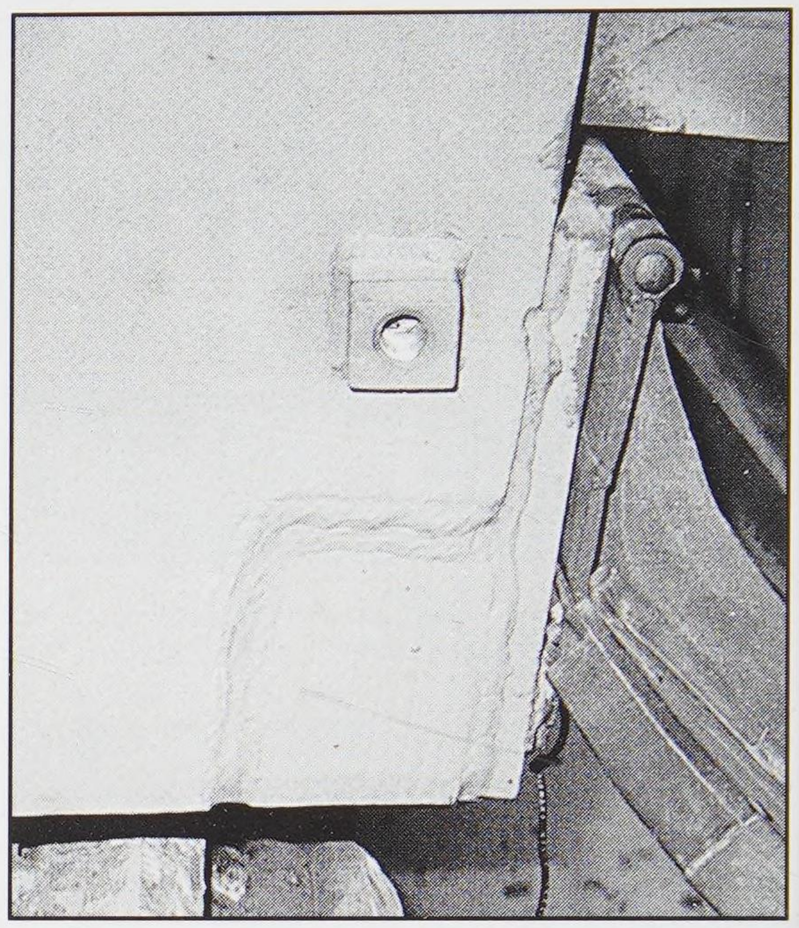
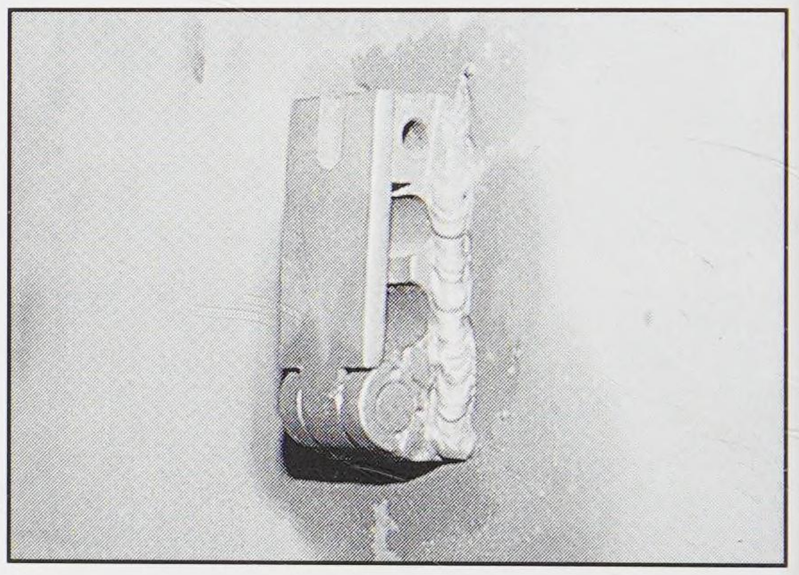
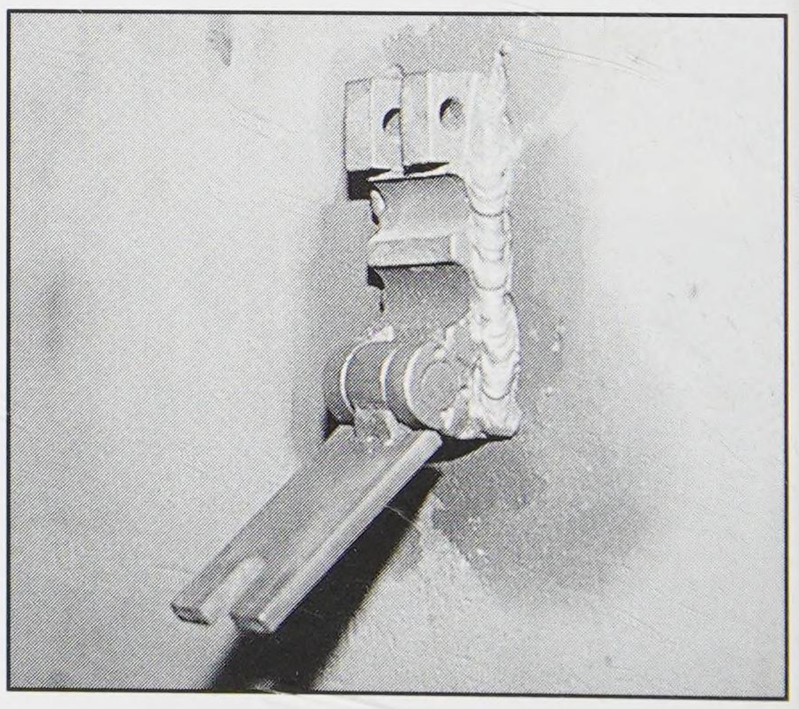
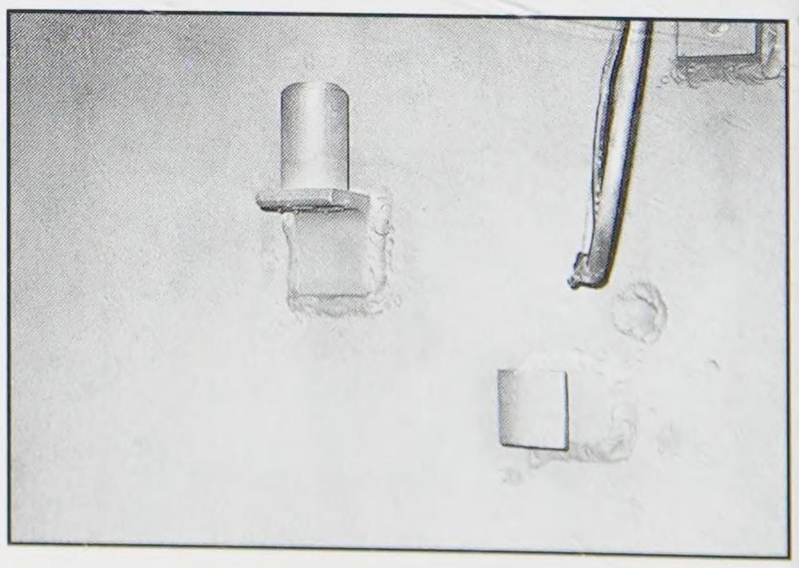


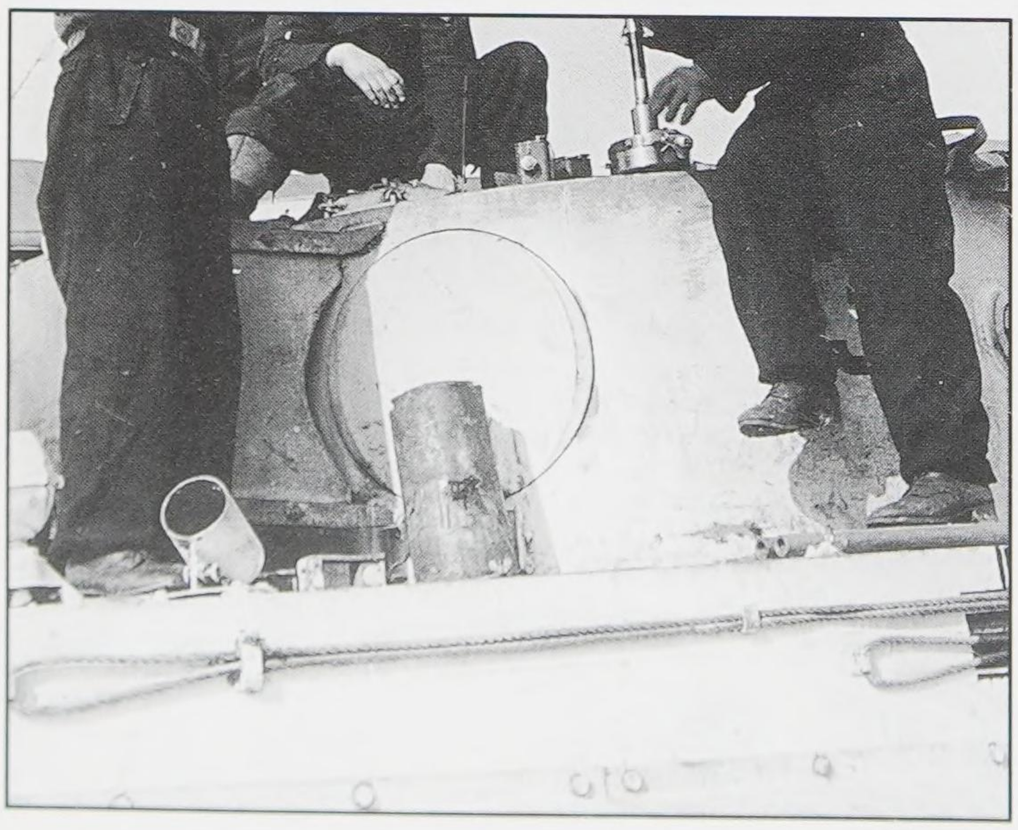
Fig. IA-10 June 1944
a) A turret ring guard was bolted to the hull top deck around the turret. This required the alteration of the tool stowage on the hull deck.
b) Axe repositioned.
c) Pry bar repositioned in front of turret ring guard.
d) A new, longer handled shovel introduced.
e) The C-hook and mount moved.
f) Sledgehammer moved to slightly to the left.
g) New tarp tie-downs added in these locations.





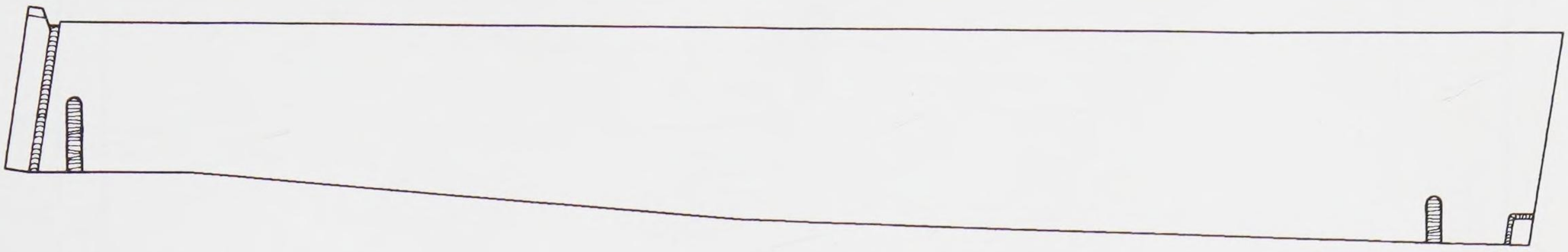






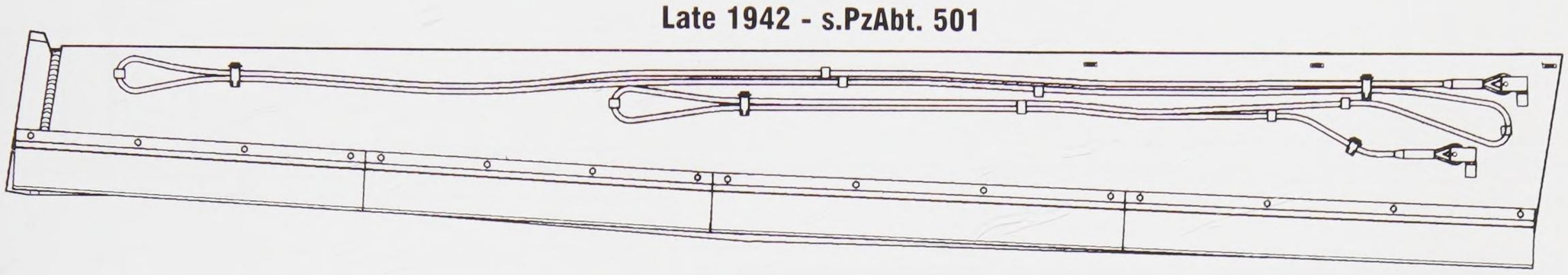
Top right: This weld fillet is visible when the side fenders are moved. It was present on all versions of the Tiger I. This photo also provides a good view of a fender attachment bolt. **Above right and center:** The clamp system for the track cables on the left side of the hull also utilized a hinged clamp. This also featured the swivel shaft and nut. This is missing in these two photos. Note the two grooves for the different sections of the cable. These clamps were dropped in August of 1943 in favor of simple hooks (see IB-1e). **Bottom right:** At the right of the photo is one of several types of hooks that were used in conjunction with the clamps shown above. Shown at the left side of the photo is one of the two attachment points for the track cable heads. **Left:** A neatly stowed track cable seen on a January 1943 production Tiger I of the LAH. (BA)

Side hull progression



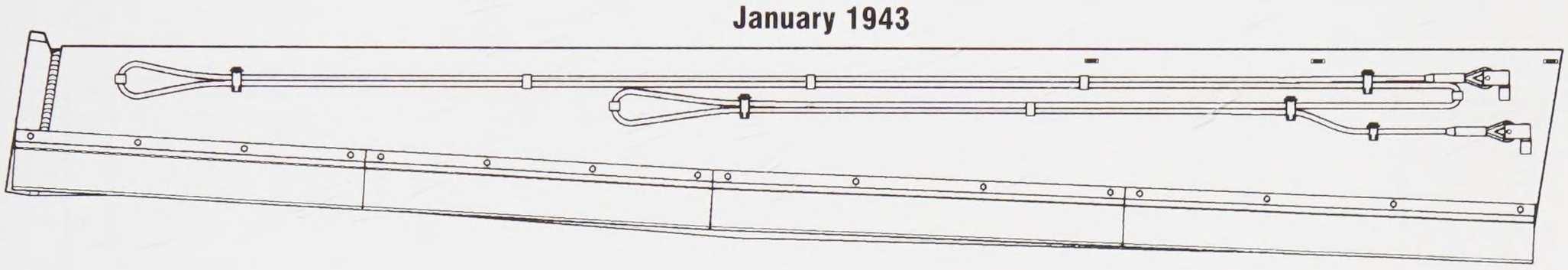
A

Late 1942 - s.PzAbt. 501



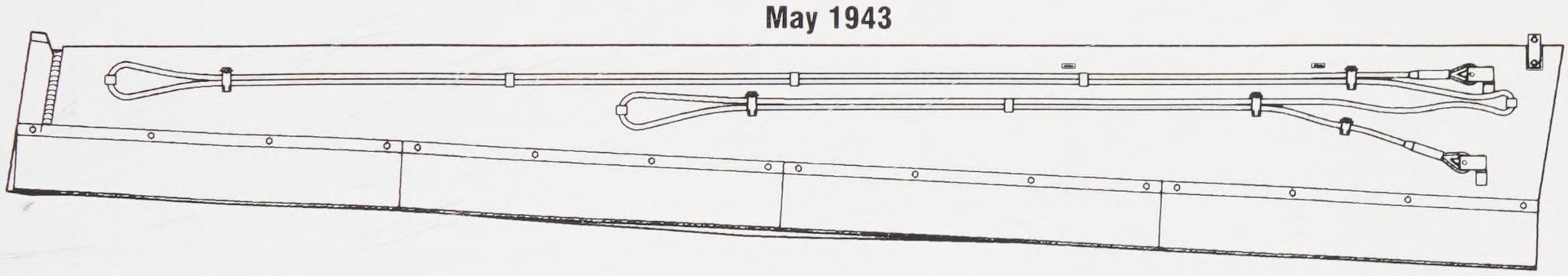
B

January 1943



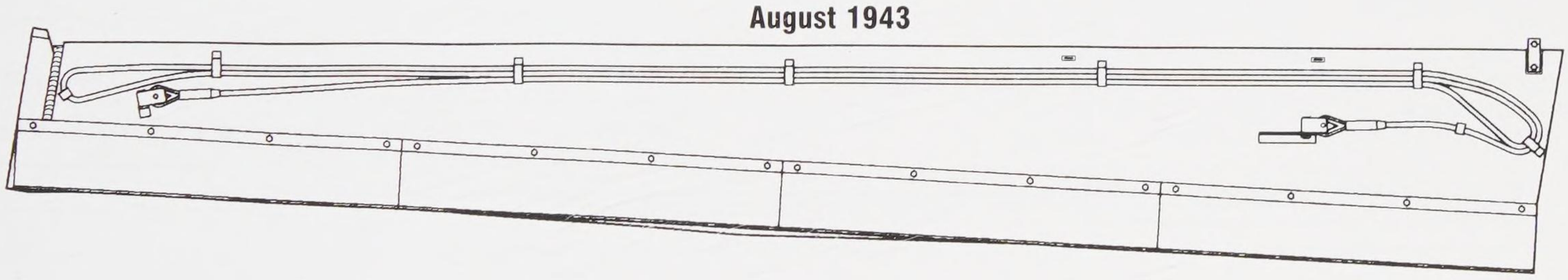
C

May 1943



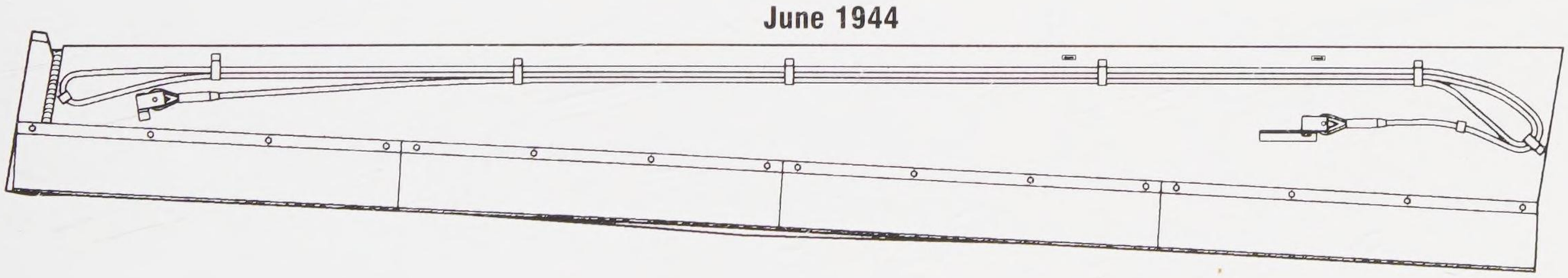
D

August 1943



E

June 1944



F

Fig. IB-1 Hull side development

a) The very first production hull had a distinctive locking fillet visible on the hull sides. All Tigers without side skirts also reveal the smaller, square weld mark in the lower right hand corner. This feature is not visible when the skirts are installed.

b) In September 1942, brackets were added to the left side of the superstructure to hold a 15-meter long cable used to change the tracks during transportation or repairs. The side tie-downs for the engine deck tarp can also be seen in this view.

c) In January 1943, extra hooks were added and the lower connector points were altered.

d) As of May 1943, the side track guards were altered to run in a straight line along the pannier side. Note the welded side bracket for the S-Mine launcher.

e) August 1943 saw the introduction of simple hooks for the track changing cable on the left pannier side, replacing the elaborate locking bracket.

f) The August configuration remained the same through the end of production in June 1944. The only difference was the deletion of the S-Mine launcher bracket.

Not to scale

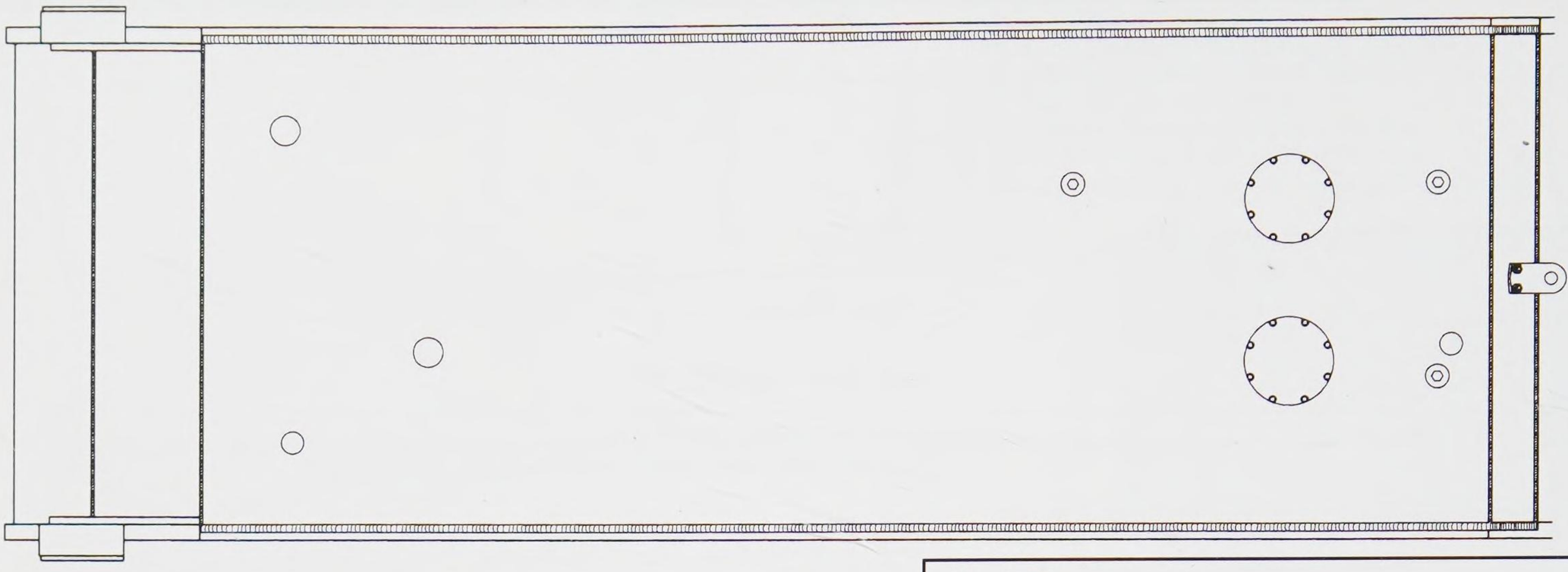


Fig. IB-2
This is the initial configuration of the hull bottom.

Hull bottom details

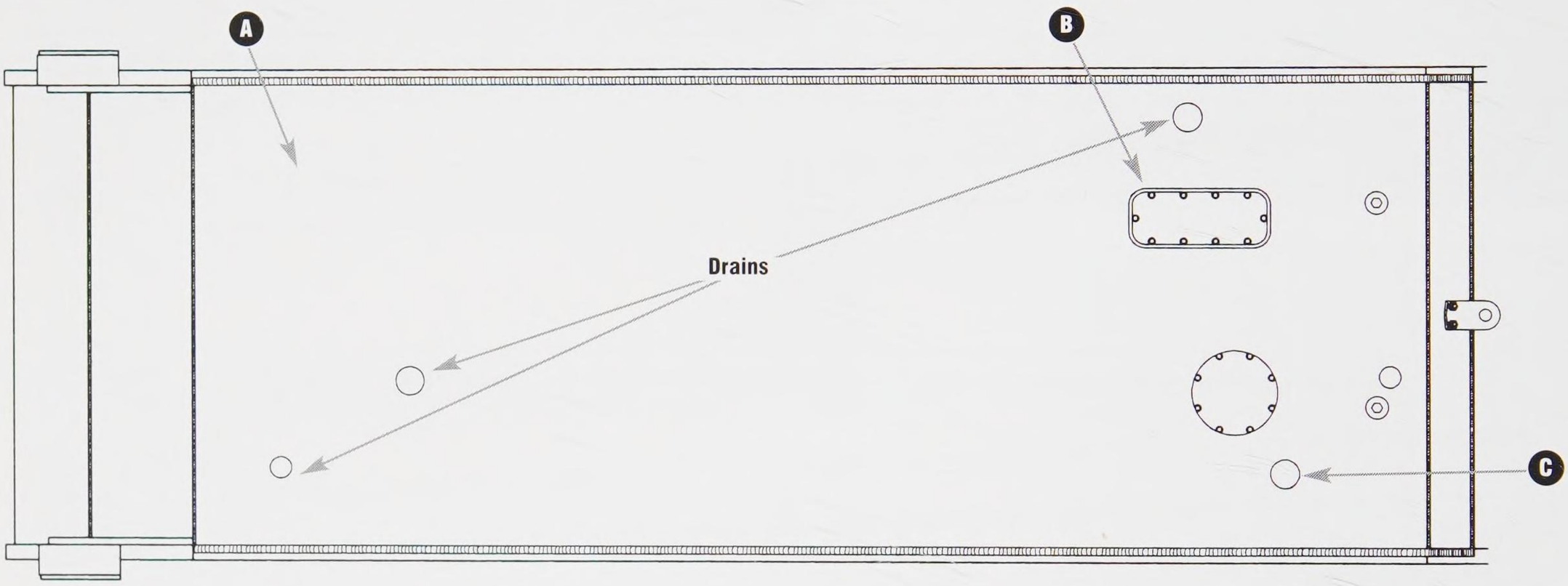
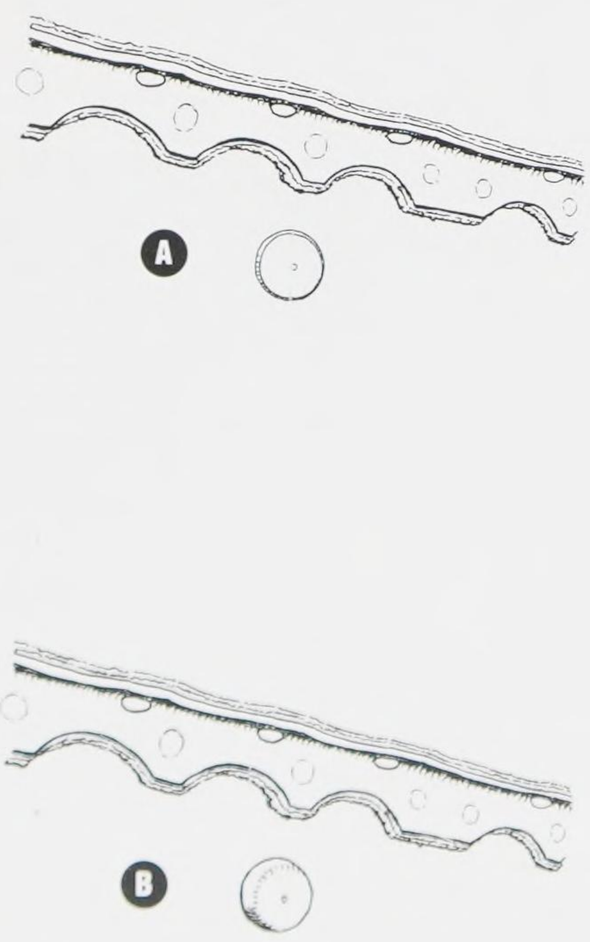


Fig. IB-3
Several changes were made in the hull bottom during the Tiger's production run.
a) The front drain valve in the hull bottom plate was deleted.
b) With a new HL 230 P45 engine, a larger rectangular hatch was added to the rear hull bottom plate.
c) With a new HL 230 P45 engine and another drain port was also added.

Fig. IB-4
a) Original shock absorber bolts.
b) The shock absorber bolts were redesigned to have large external heads.
The larger illustration shows their location on the hull.



Front hull detail

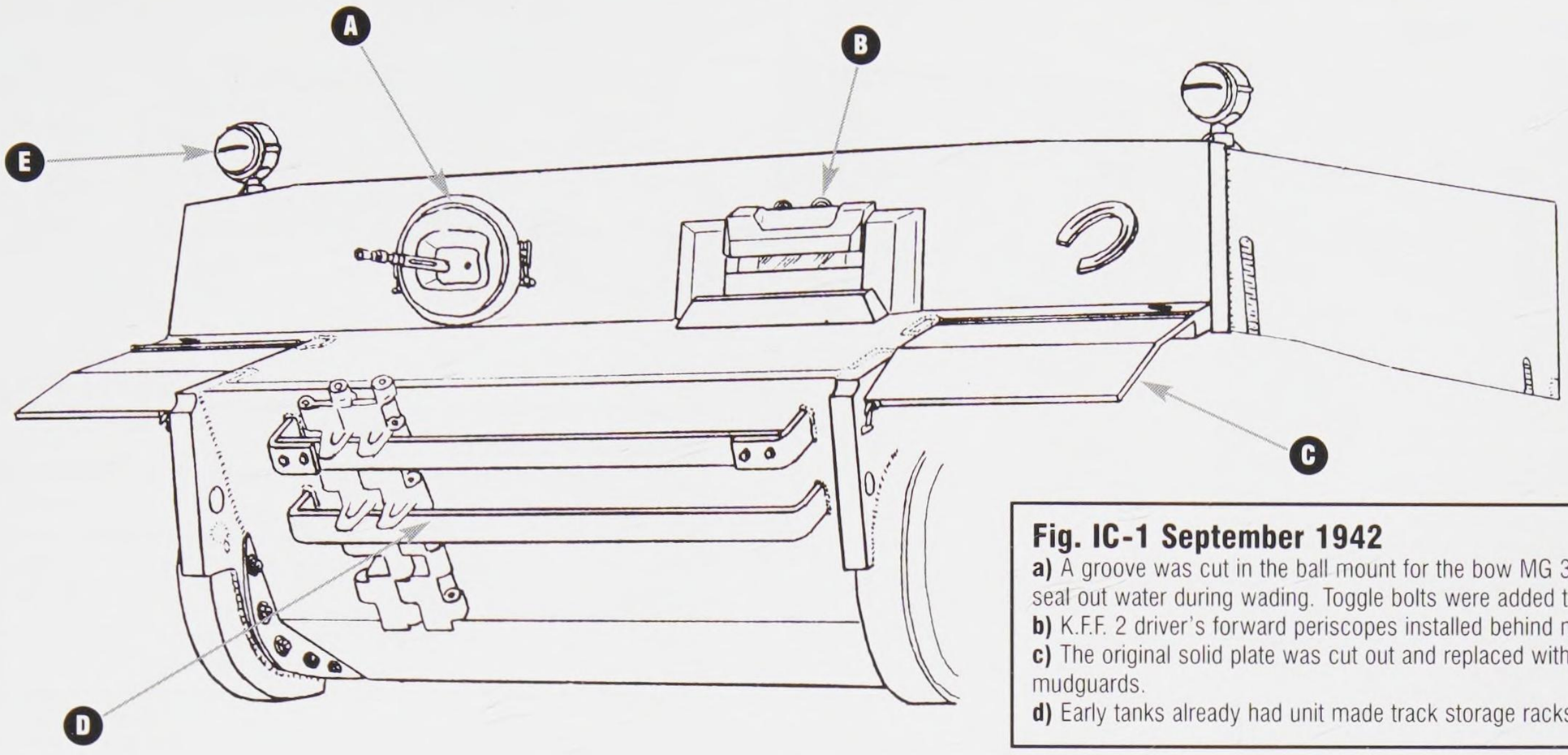


Fig. IC-1 September 1942
a) A groove was cut in the ball mount for the bow MG 34 to mount a cap to seal out water during wading. Toggle bolts were added to secure it.
b) K.F.F. 2 driver's forward periscopes installed behind milled openings.
c) The original solid plate was cut out and replaced with sheet metal mudguards.
d) Early tanks already had unit made track storage racks.

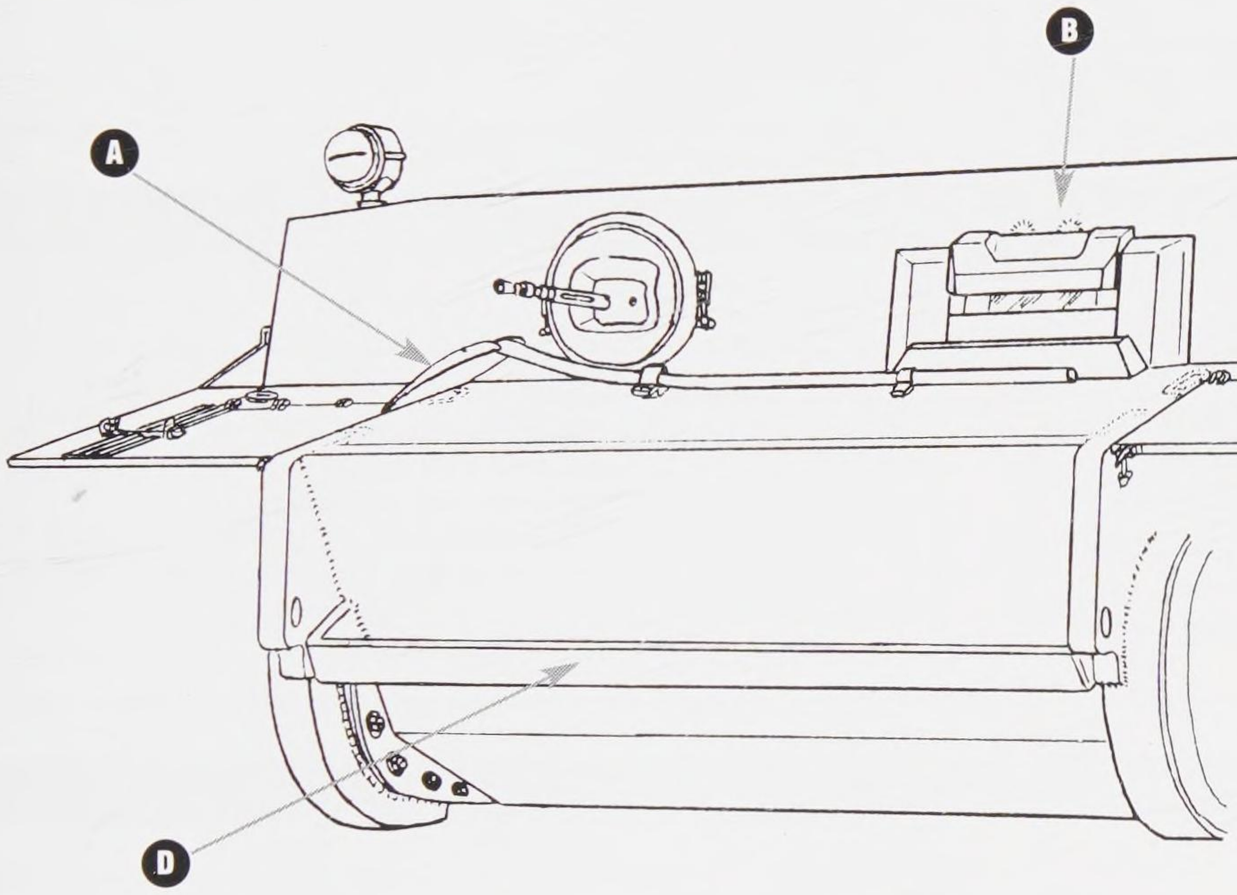


Fig. IC-2 February 1943
a) By October of 1942 clasps were welded to the front glacis plate to hold a long handled shovel.
b) The K.F.F. 2 driver's forward periscopes were deleted from the front plate in February. A number of hulls had been predrilled for these devices and the holes were plugged and welded.
c) By this time, the production design front mudguards are installed.
d) Another type of unit-made track stowage rack is seen here. This modification was to remain a locally made addition throughout the production run of the Tiger I.

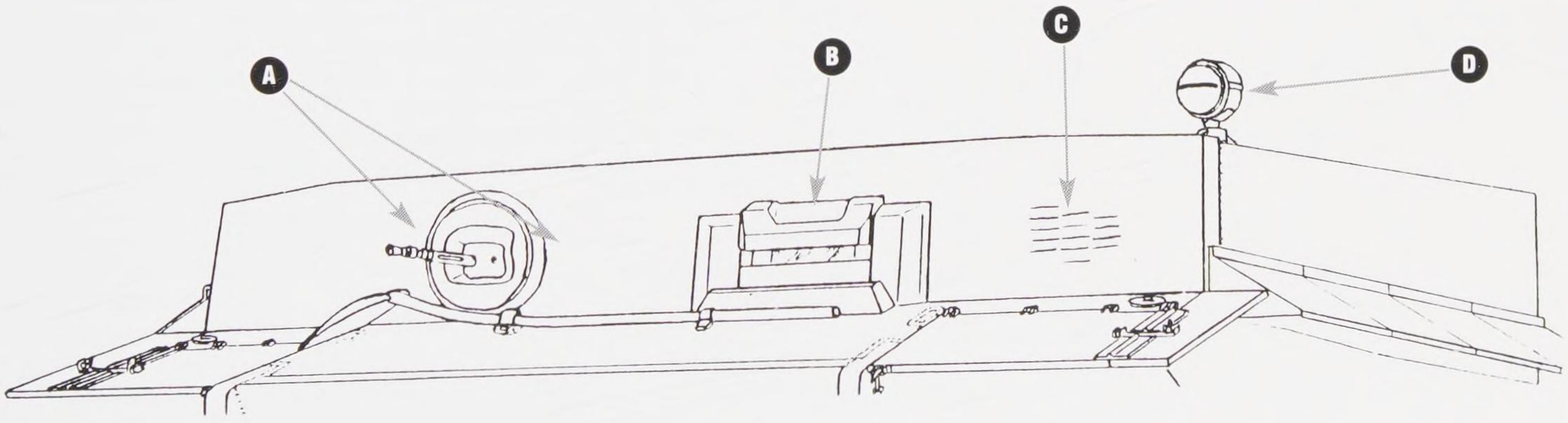


Fig. IC-3 June-August 1943
a) The toggle bolts were deleted by the June production.
b) With the K.F.F. 2 driver's forward periscopes deleted in February, hulls were no longer manufactured with the milled holes.
c) In August, Tigers were finished in a coating of "Zimmerit" anti-magnetic cement, which was applied to the vertical sides of the hull, superstructure and turret, using special tools with teeth that spread the Zimmerit paste cement in ridges and depressions. This held magnetic anti-tank mines away from the armor so they wouldn't attach to the tanks. Zimmerit was not to be applied to horizontal surfaces.
d) Also in August, the right side headlight was deleted. The left light near the driver's hatch was retained (**also see IA-7**).

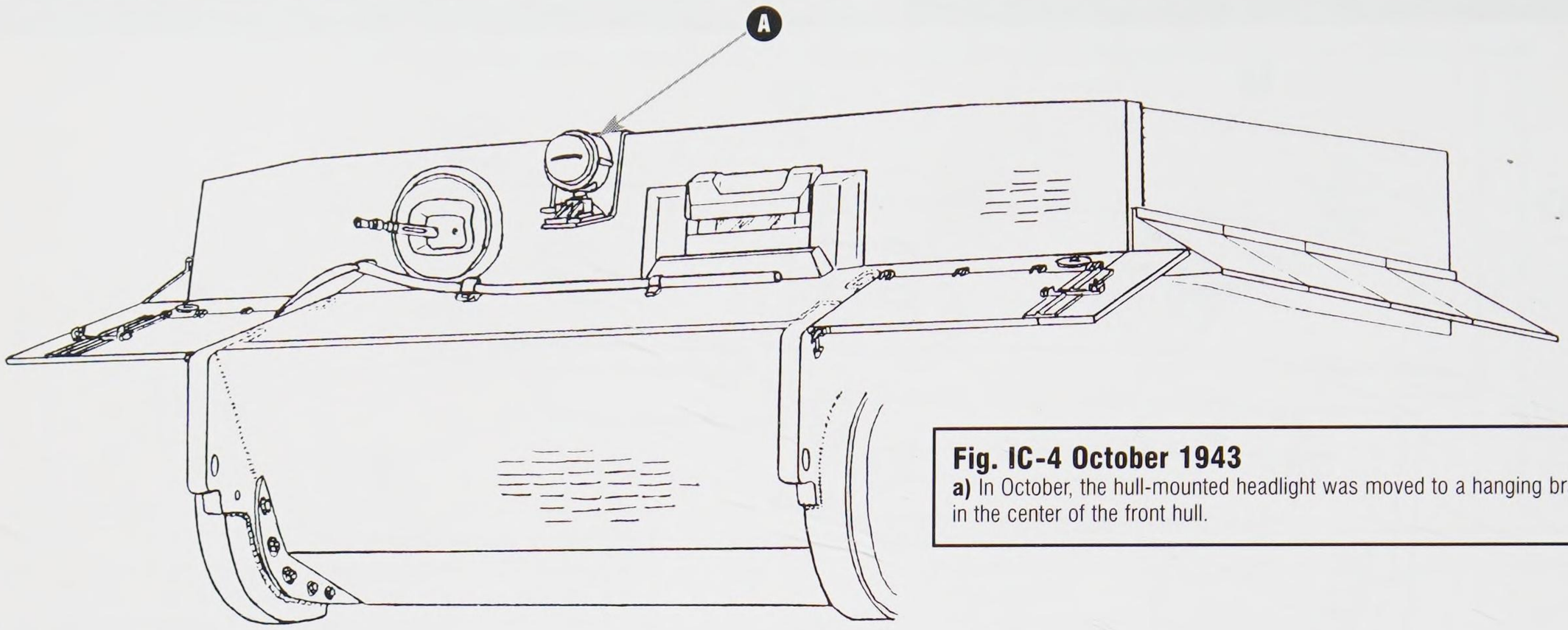


Fig. IC-4 October 1943
a) In October, the hull-mounted headlight was moved to a hanging bracket in the center of the front hull.

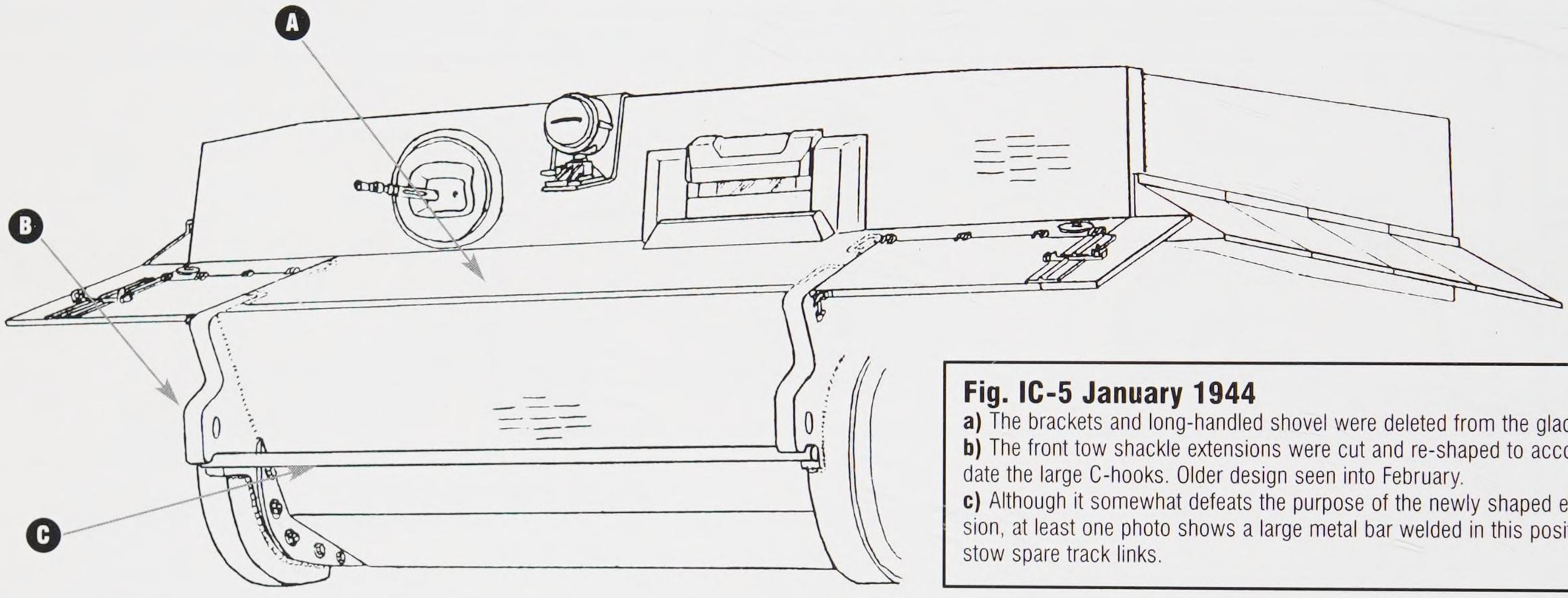


Fig. IC-5 January 1944
a) The brackets and long-handled shovel were deleted from the glacis.
b) The front tow shackle extensions were cut and re-shaped to accommodate the large C-hooks. Older design seen into February.
c) Although it somewhat defeats the purpose of the newly shaped extension, at least one photo shows a large metal bar welded in this position to stow spare track links.

Vorpanzer

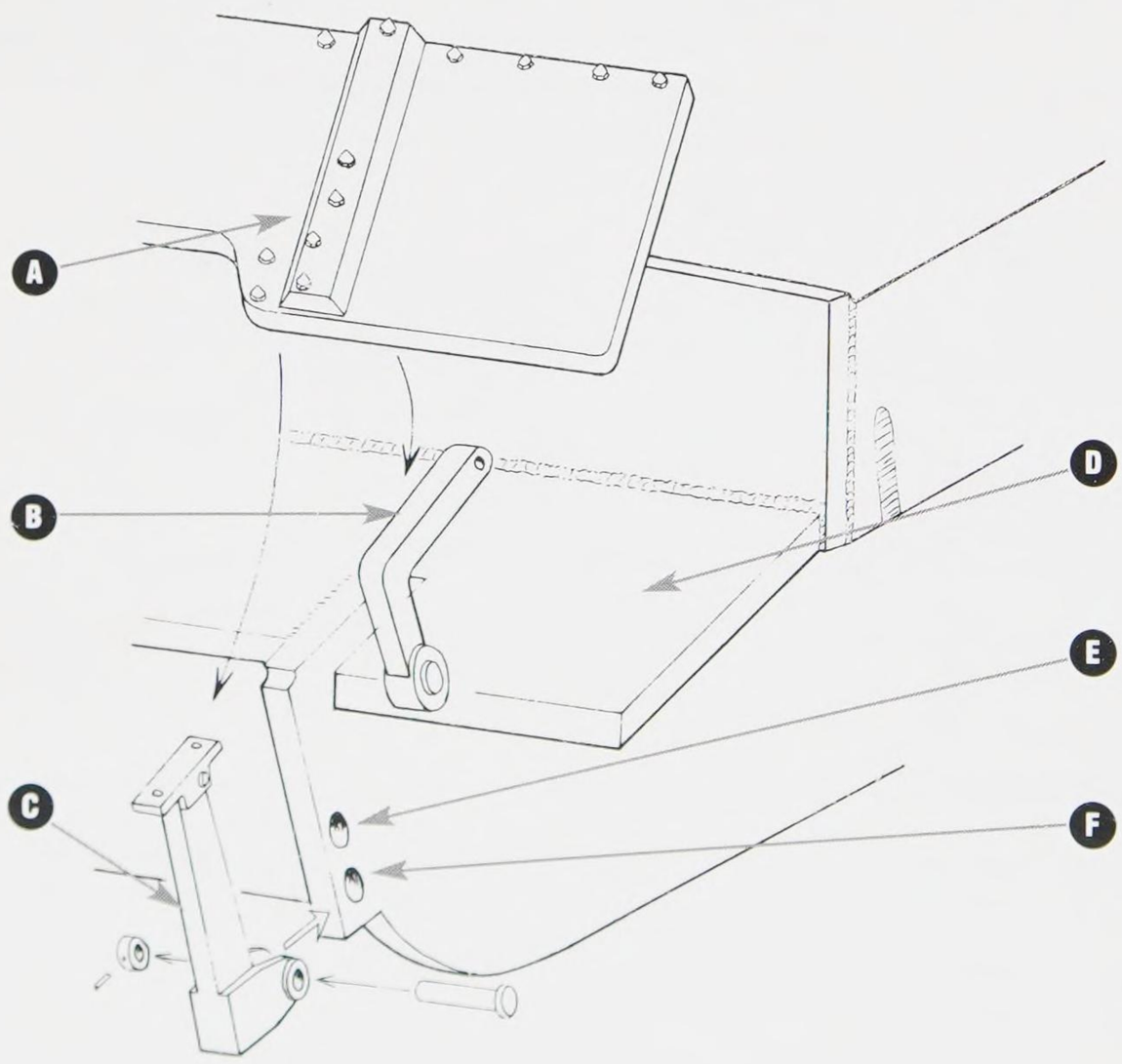


Fig. IG-15
The original design for the Tiger I featured a drop down armor plate for the front of the hull. Only the prototype featured this mechanism.
a) The Vorpanzer movable armor plate.
b) The upper pivot arm.
c) The lower support arm and pin.
d) The glacis plate was a single piece to the corner of the hull.
e) Hole for the tow shackle.
f) Hole for the Vorpanzer lower pivot pin.

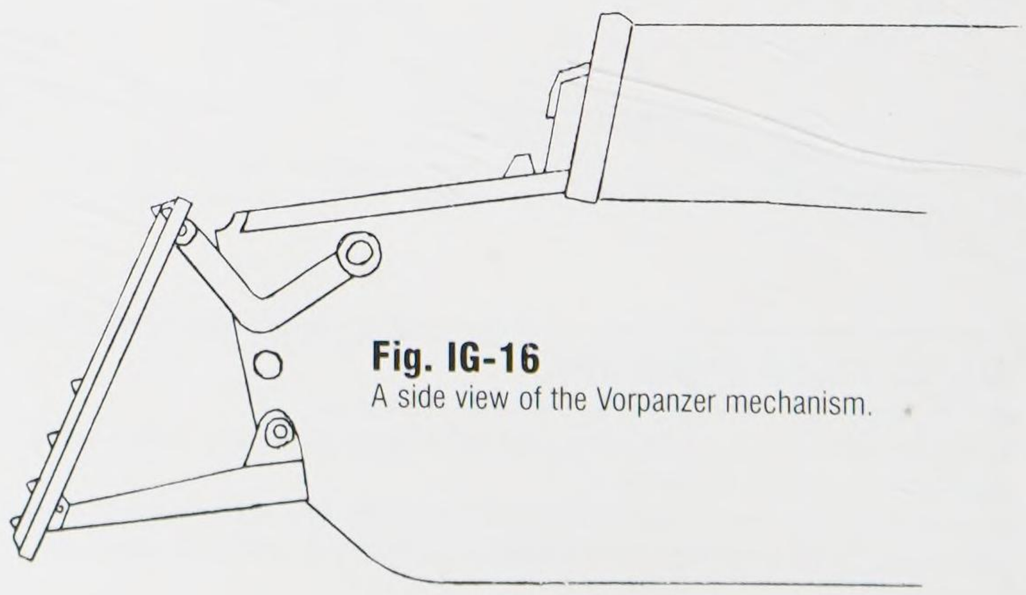


Fig. IG-16
A side view of the Vorpanzer mechanism.

Final drive details

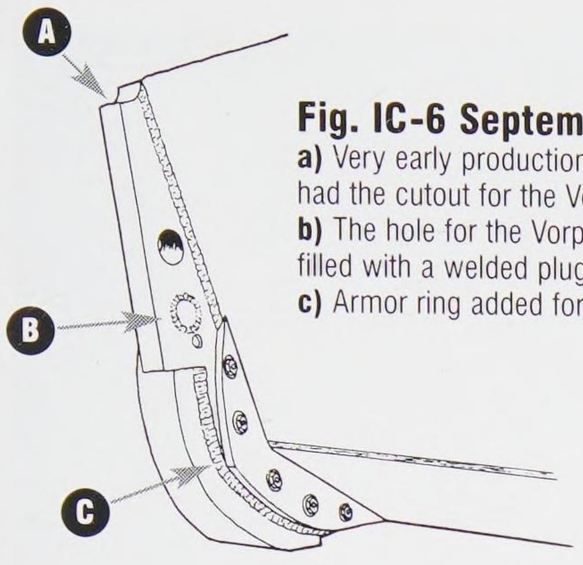


Fig. IC-6 September 1942
a) Very early production hulls still had the cutout for the Vorpanzer.
b) The hole for the Vorpanzer arm is filled with a welded plug.
c) Armor ring added for final drive.

Fig. IC-7 October 1942
The front hull extension now has the more familiar shape and contains only a single hole.

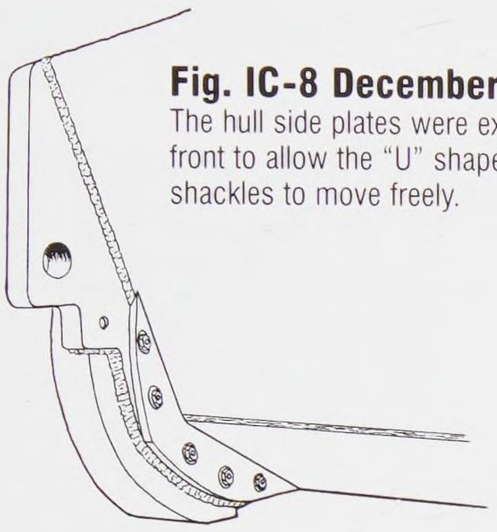


Fig. IC-8 December 1942
The hull side plates were extended in front to allow the "U" shaped tow shackles to move freely.

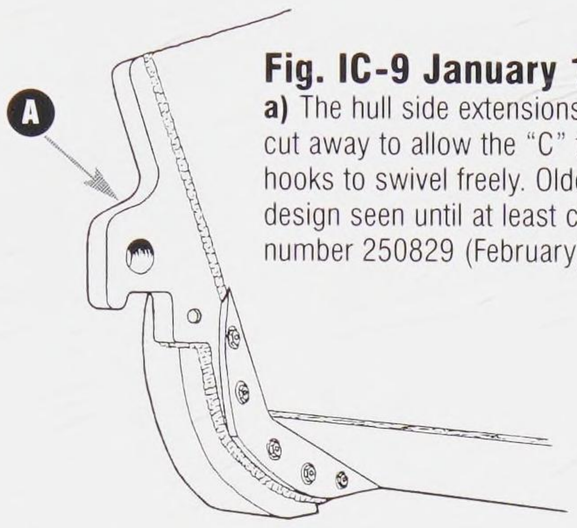
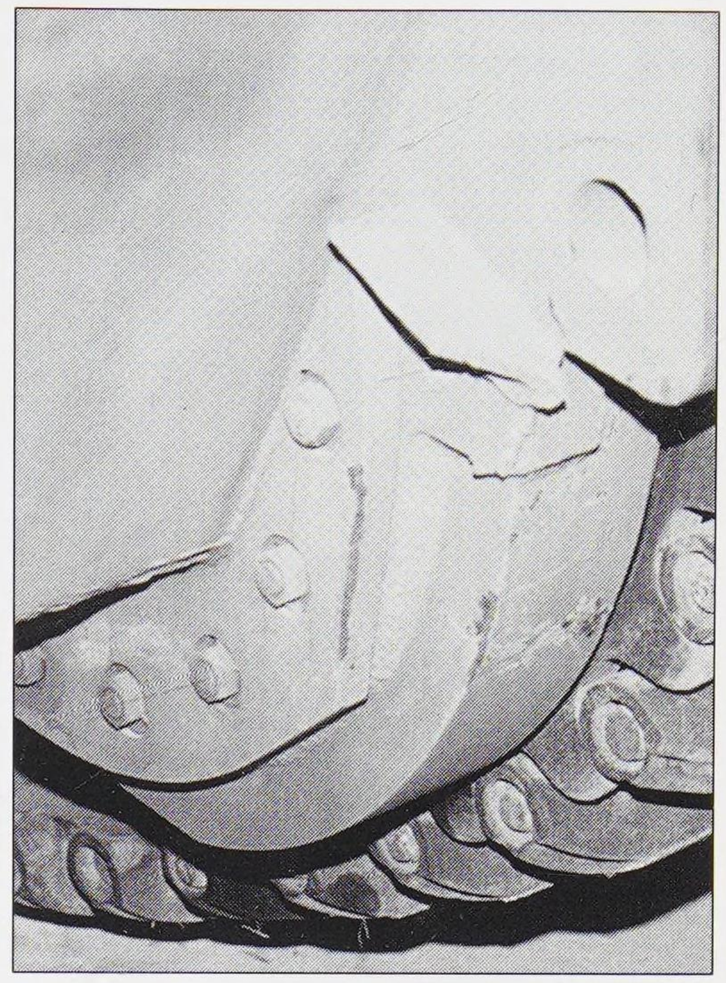


Fig. IC-9 January 1944
a) The hull side extensions were cut away to allow the "C" tow hooks to swivel freely. Older design seen until at least chassis number 250829 (February).



The left hand final drive detail of the Bovington Tiger I. This particular vehicle is chassis number 250122 and was manufactured in February of 1943. A small piece of metal is seen welded to the top of the bolt plate. This may be the remainder of a track stowage bar.

Mudguard progression

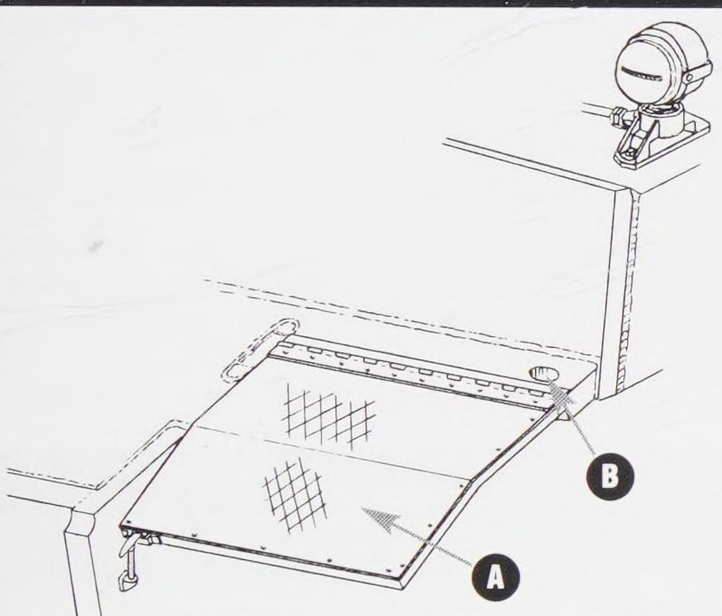
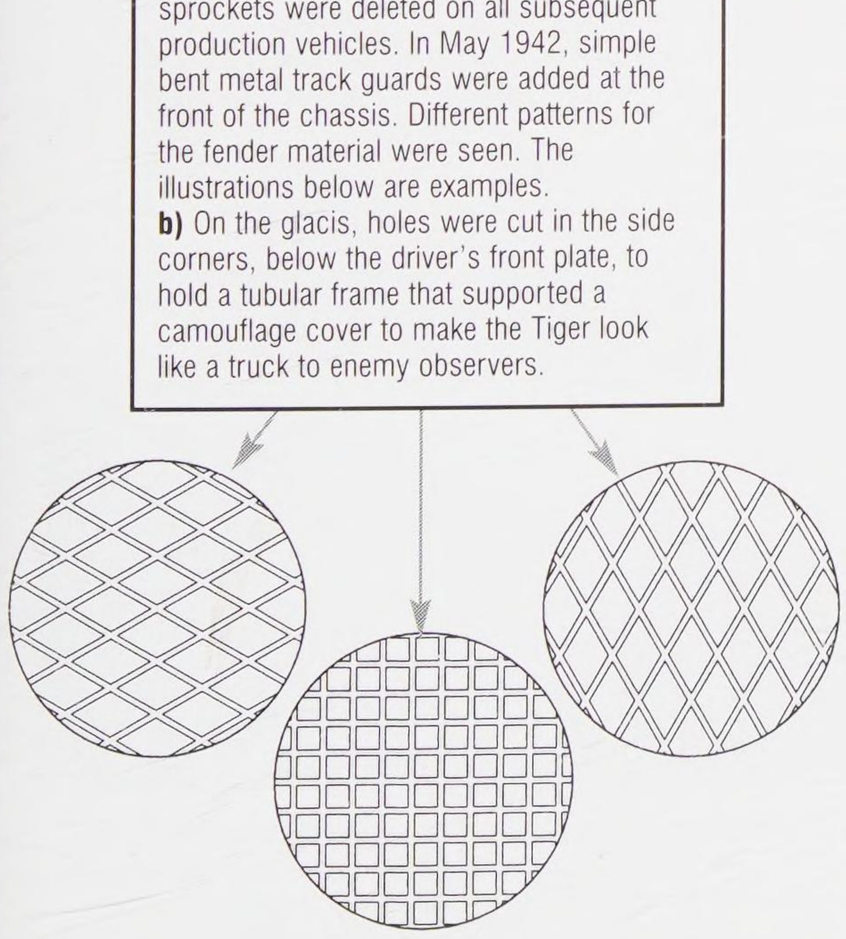


Fig. ID-1 Early front mudguard
a) When the movable front armor on the first prototype was dropped, the side extensions of the glacis plate above the drive sprockets were deleted on all subsequent production vehicles. In May 1942, simple bent metal track guards were added at the front of the chassis. Different patterns for the fender material were seen. The illustrations below are examples.
b) On the glacis, holes were cut in the side corners, below the driver's front plate, to hold a tubular frame that supported a camouflage cover to make the Tiger look like a truck to enemy observers.



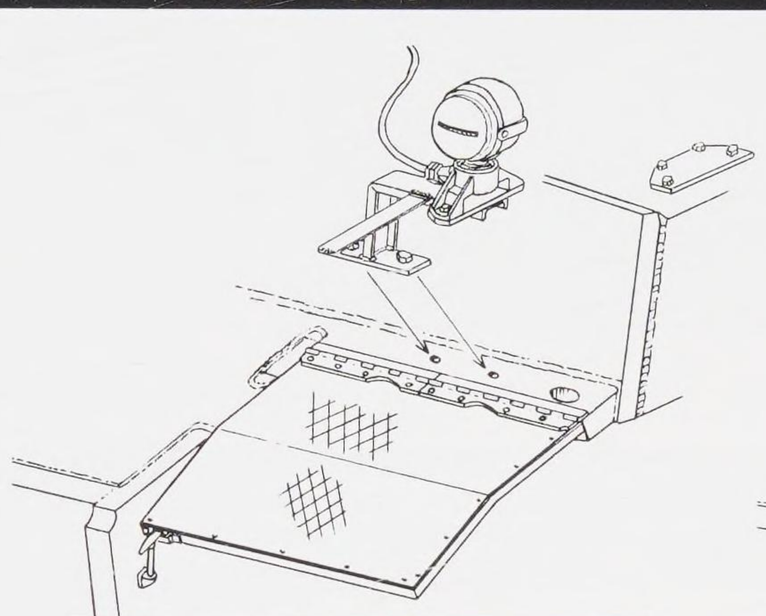


Fig. ID-2 Unit modification, s.PzAbt. 501
This shows the details of a modification common the Tigers of the 1st company of the s.PzAbt. 501 in North Africa, moving the hull mounted Bosch light to a lower position on special bracket. This was presumably accomplished to keep the gun from fouling the lights when at extreme depression. This detail was more common during the early deployment of these vehicles.

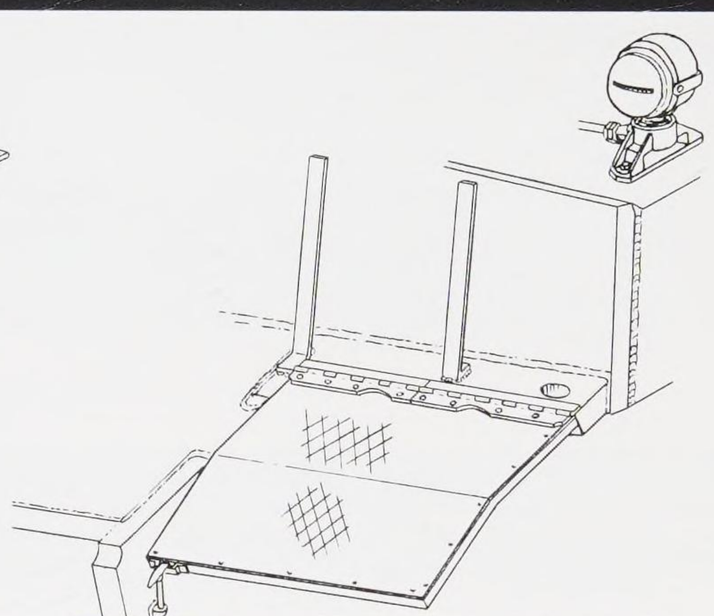
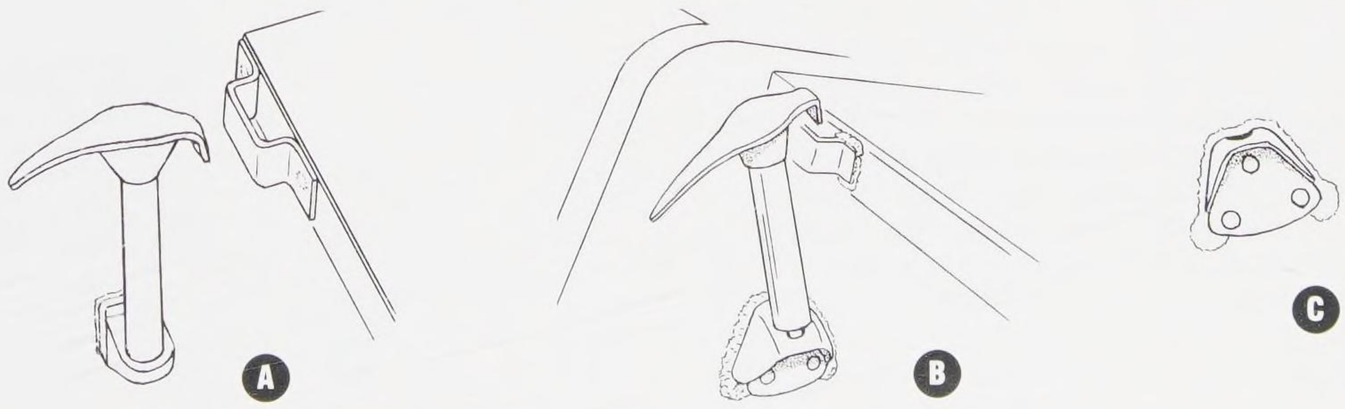


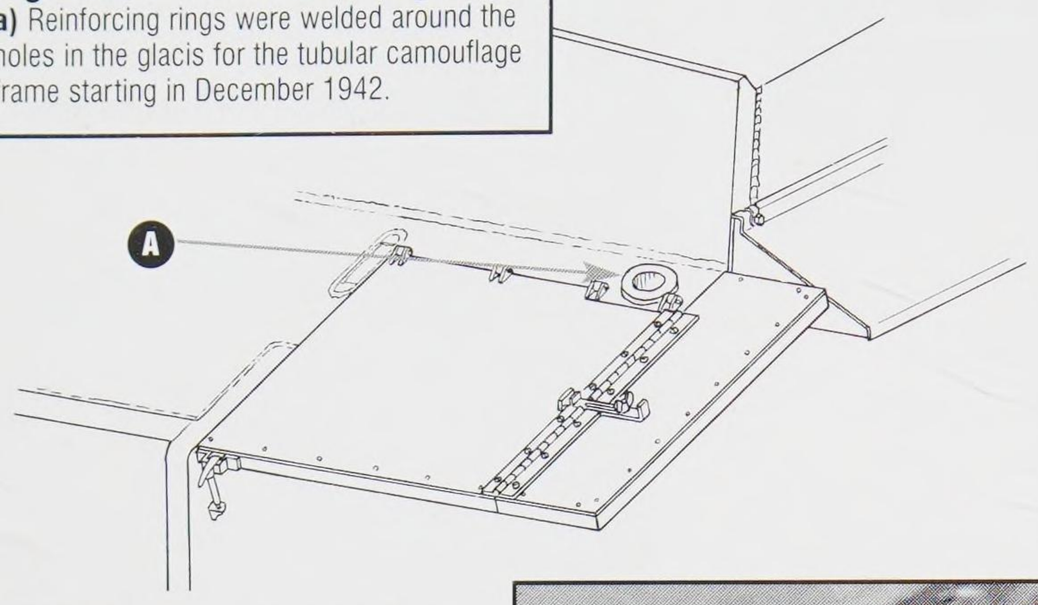
Fig. ID-3 Unit modification, s.PzAbt. 501
This shows the details of a modification common to the Tigers of the 2nd company of the s.PzAbt. 501 in North Africa, installing straps to hang spare track sections. This detail was more common during the later deployment of these vehicles.

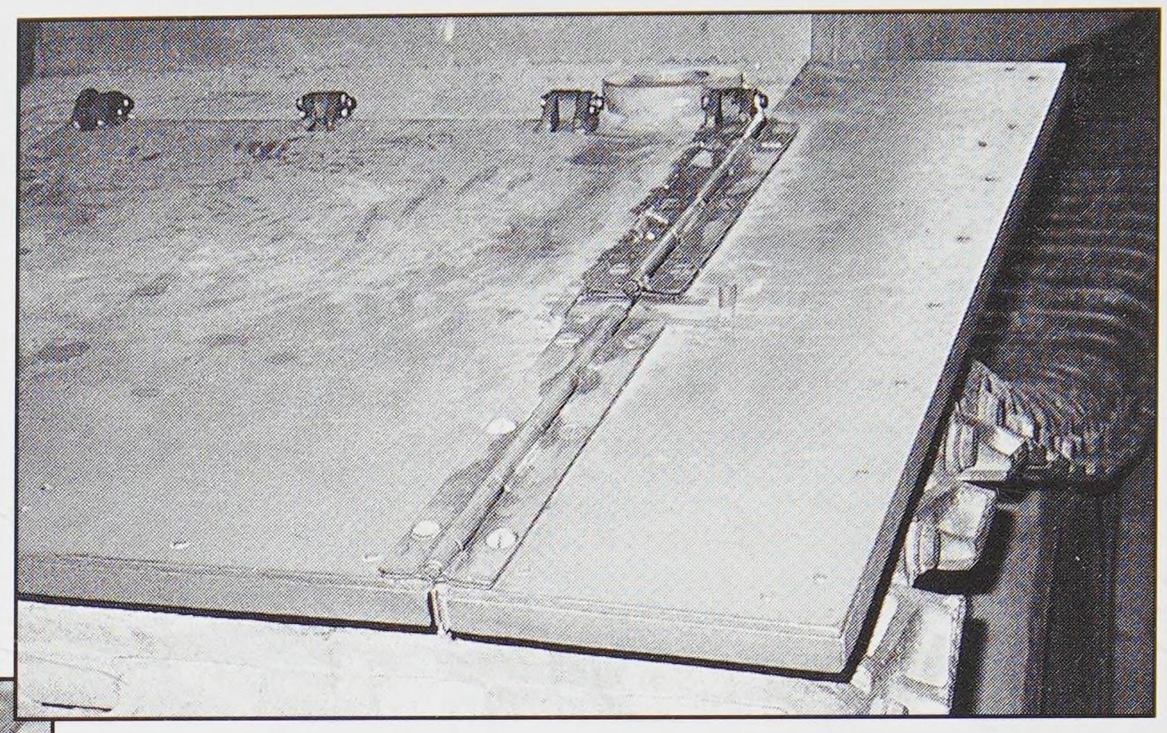
Fig. ID-4 Front mudguard latch
A small, sprung latch was used to secure the front fenders and could be released for maintenance.
a) This was the type seen on the early style bent mudguards.
b) This type was used on the production mudguards and it utilized a sturdier base that could swivel.
c) Detail of the latch base. The latches were often torn off in action, leaving only the base.



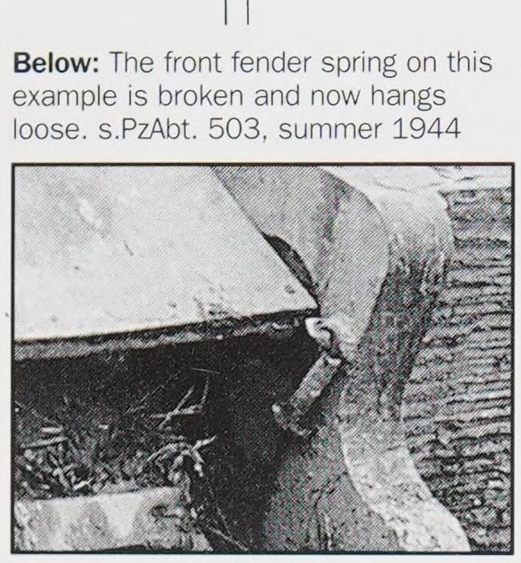
Mudguard progression

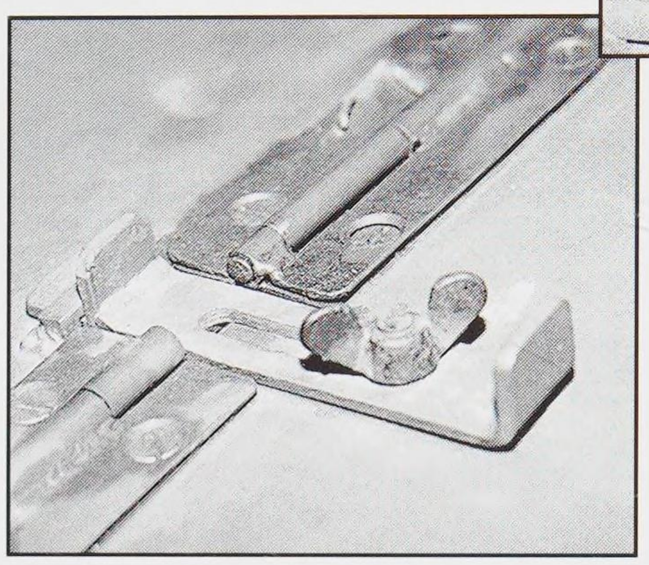
Fig. ID-5 Production mudguards
a) Reinforcing rings were welded around the holes in the glacis for the tubular camouflage frame starting in December 1942.

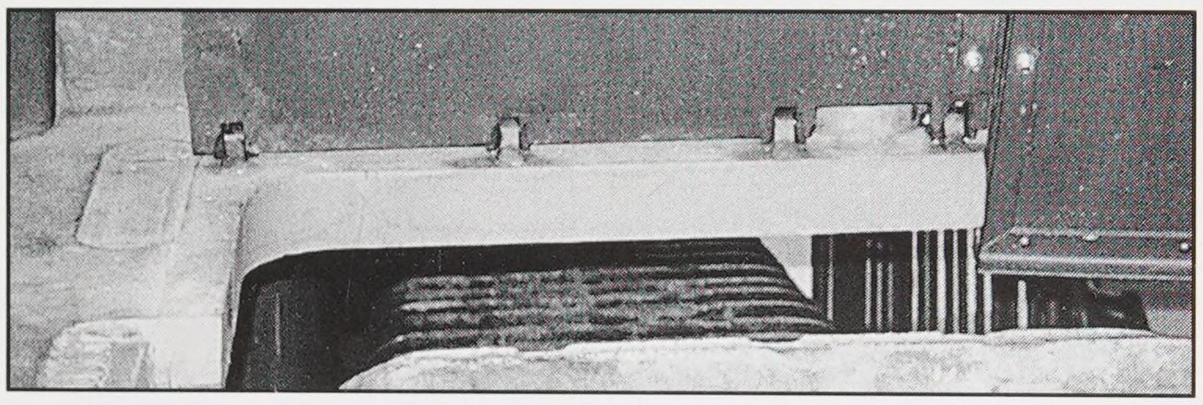




Below: The front fender spring on this example is broken and now hangs loose. s.PzAbt. 503, summer 1944







The photos shown here are, again, of the Bovington vehicle. Although restoration of the fenders has begun, much of the original detail is intact. Of special interest are the fender hinge posts seen in the photo at the left.

Side mudguard details

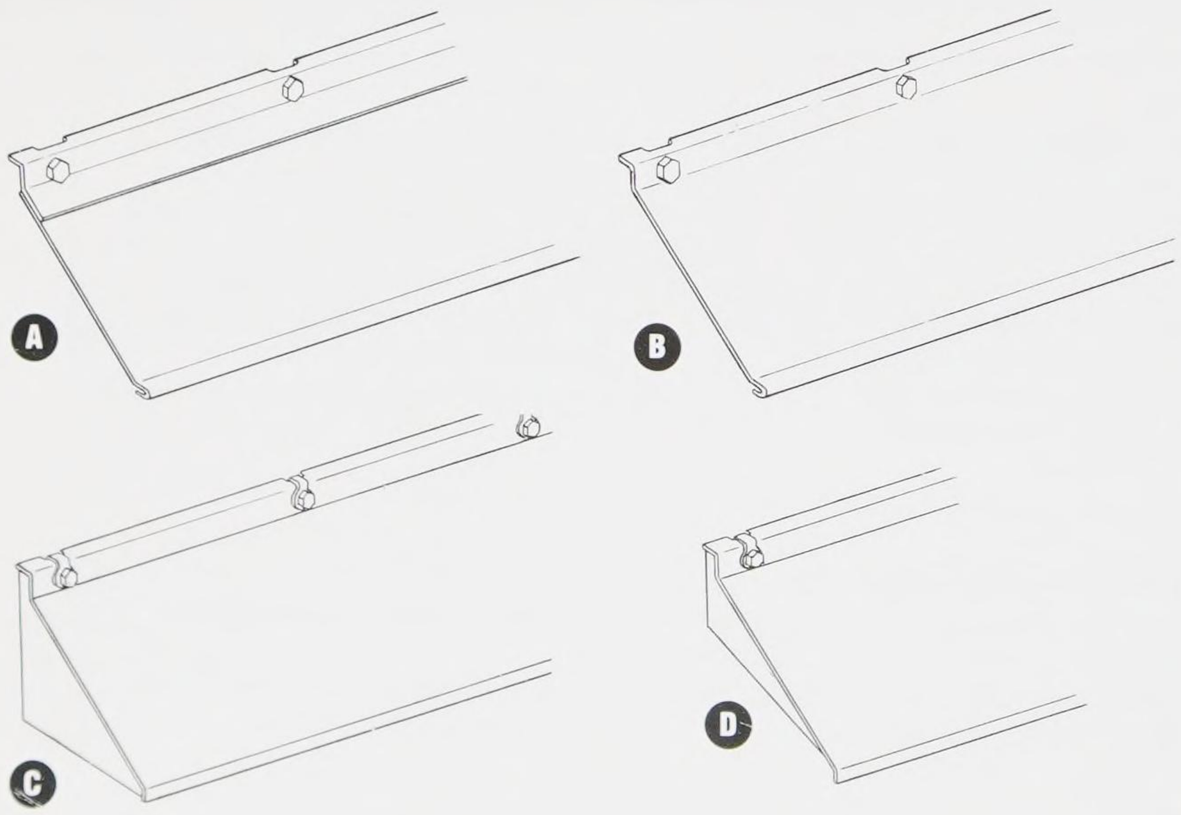
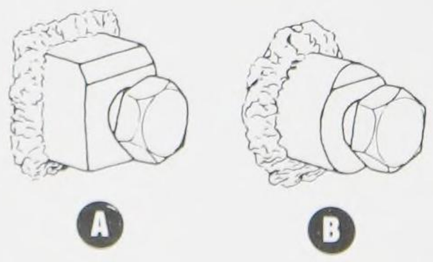
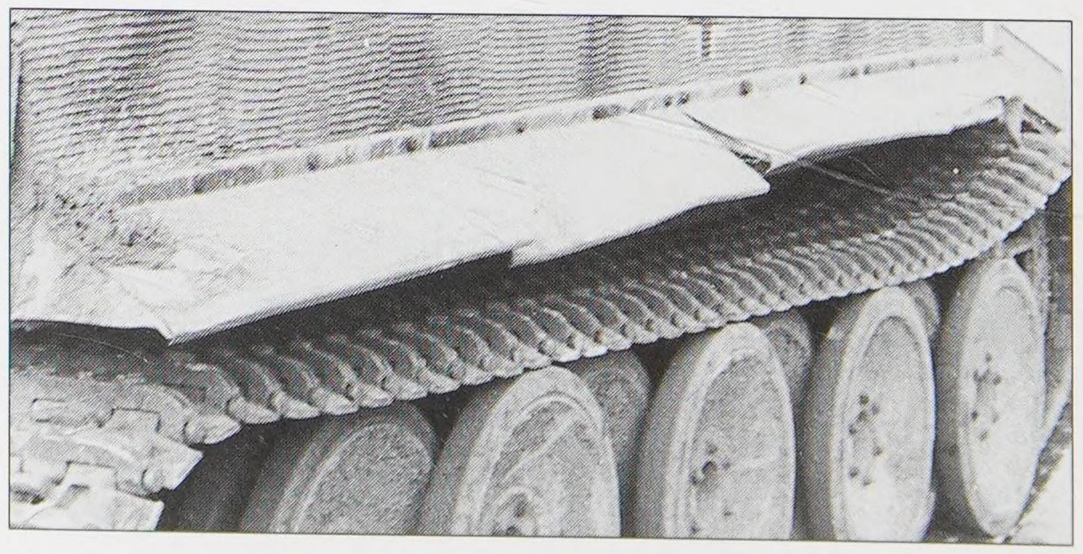


Fig. ID-6 Side mudguards
a) In November 1942, sheet metal side track guards were bolted to the sides of the panniers to control dust and debris thrown up by the tracks. The initial design was made up of sections composed of two pieces, welded together.
b) In November 1942, the side track guards were simplified, now being bent up from single pieces of sheet metal. This particular design was short lived and only used on four vehicles produced that month.
c) In January 1943, the side track guards were modified, with triangular braces added to the ends of the sections. The front and rear sections had the larger brace seen here.
d) The inner mudguards had this thinner brace.

Fig. ID-7 Side mudguard bolt variation
a) A threaded nut was welded on the hull to attach the sheet metal side track guards. Vehicles left the factory with this square-shaped nut starting in November 1942.
b) This variation is seen retrofitted to early vehicles that originally left the factory with no bolts.





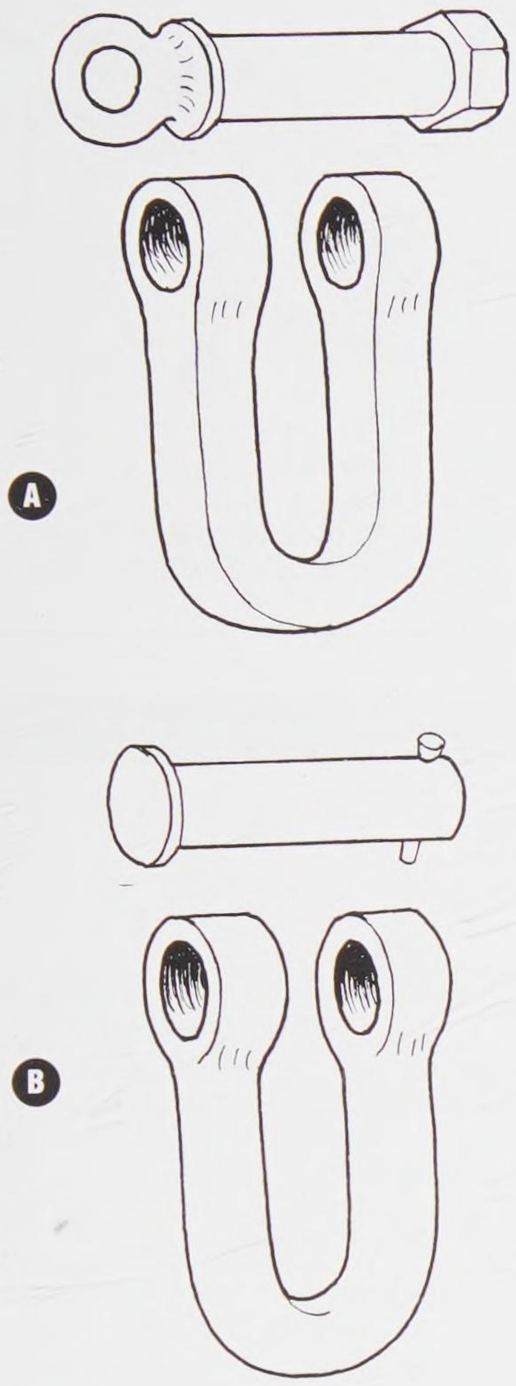
This post May 1943 production vehicle seen in Italy has the full set of side mudguards in place. Although made from heavy gauge steel and braced from beneath, the heavy weight of the tank left them vulnerable to damage. (BA)

Fig. ID-8 Towing shackles

All vehicles were fitted with U-shaped tow shackles for use at the four corners of the hull.

a) The initial design was formed from flat stock and had a square profile. The retaining pin had a loop on one side and a nut on the other.

b) In December 1943, new rounded profile tow shackles were introduced with new pine design. The older pin was still often seen with the new shackle.



Engine deck grate progression

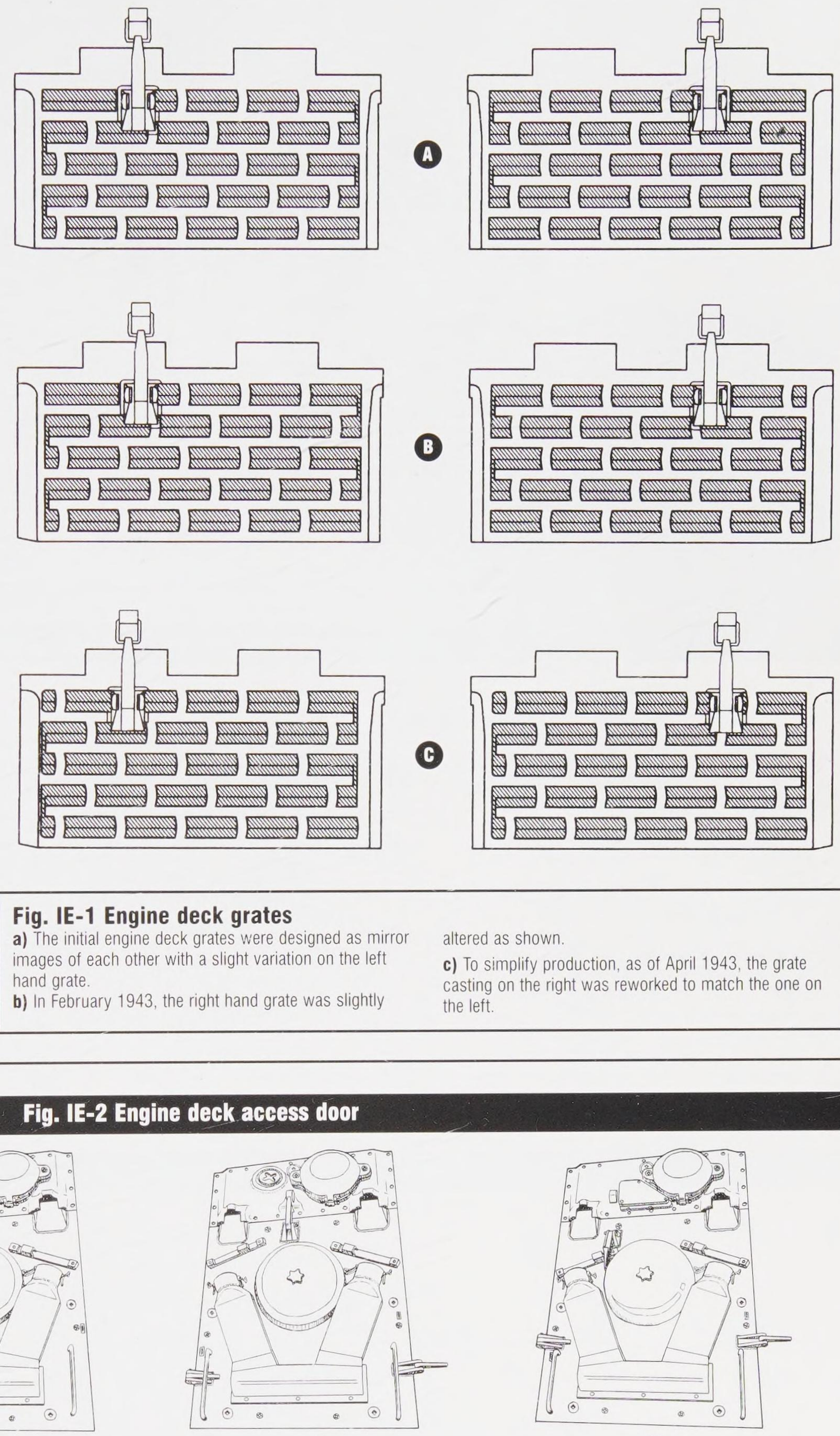


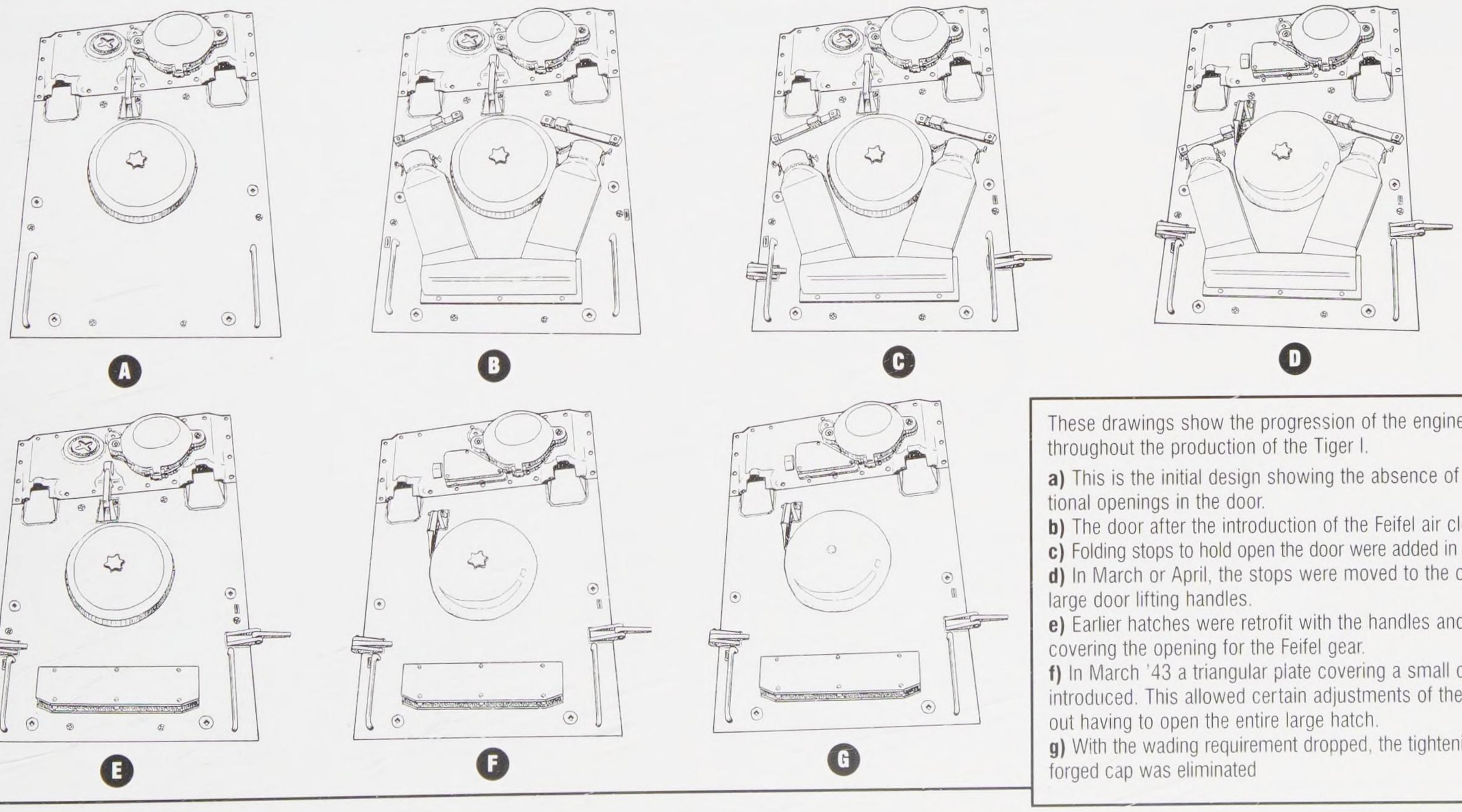
Fig. IE-1 Engine deck grates

a) The initial engine deck grates were designed as mirror images of each other with a slight variation on the left hand grate.

b) In February 1943, the right hand grate was slightly altered as shown.

c) To simplify production, as of April 1943, the grate casting on the right was reworked to match the one on the left.

Fig. IE-2 Engine deck access door



These drawings show the progression of the engine hatch throughout the production of the Tiger I.

a) This is the initial design showing the absence of the any additional openings in the door.

b) The door after the introduction of the Feifel air cleaning system.

c) Folding stops to hold open the door were added in February 1943.

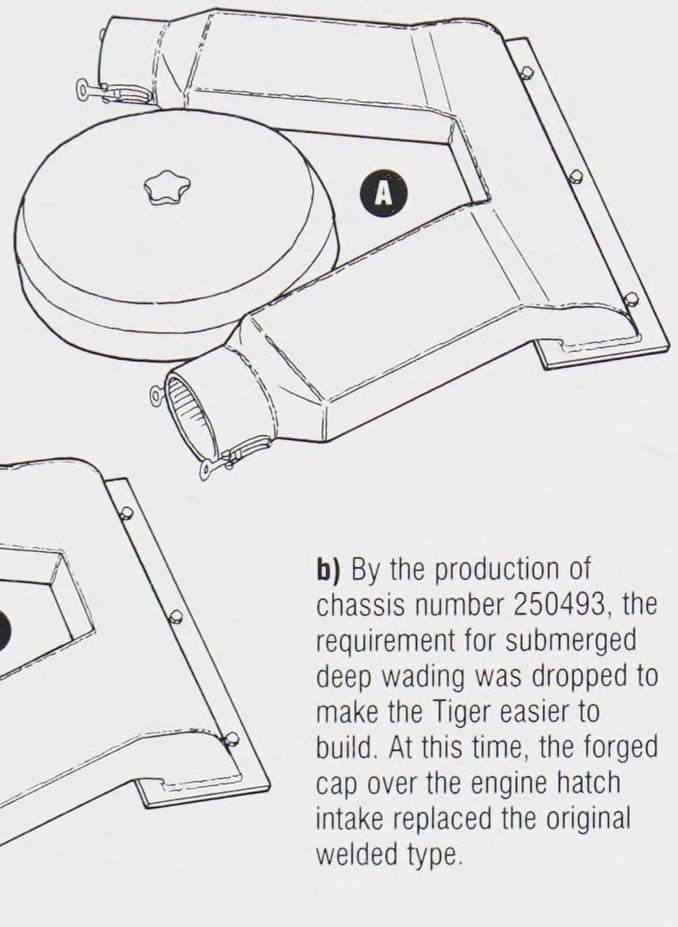
d) In March or April, the stops were moved to the outside of the large door lifting handles.

e) Earlier hatches were retrofit with the handles and the large plate covering the opening for the Feifel gear.

f) In March '43 a triangular plate covering a small opening was introduced. This allowed certain adjustments of the engine without having to open the entire large hatch.

g) With the wading requirement dropped, the tightening lug for the forged cap was eliminated

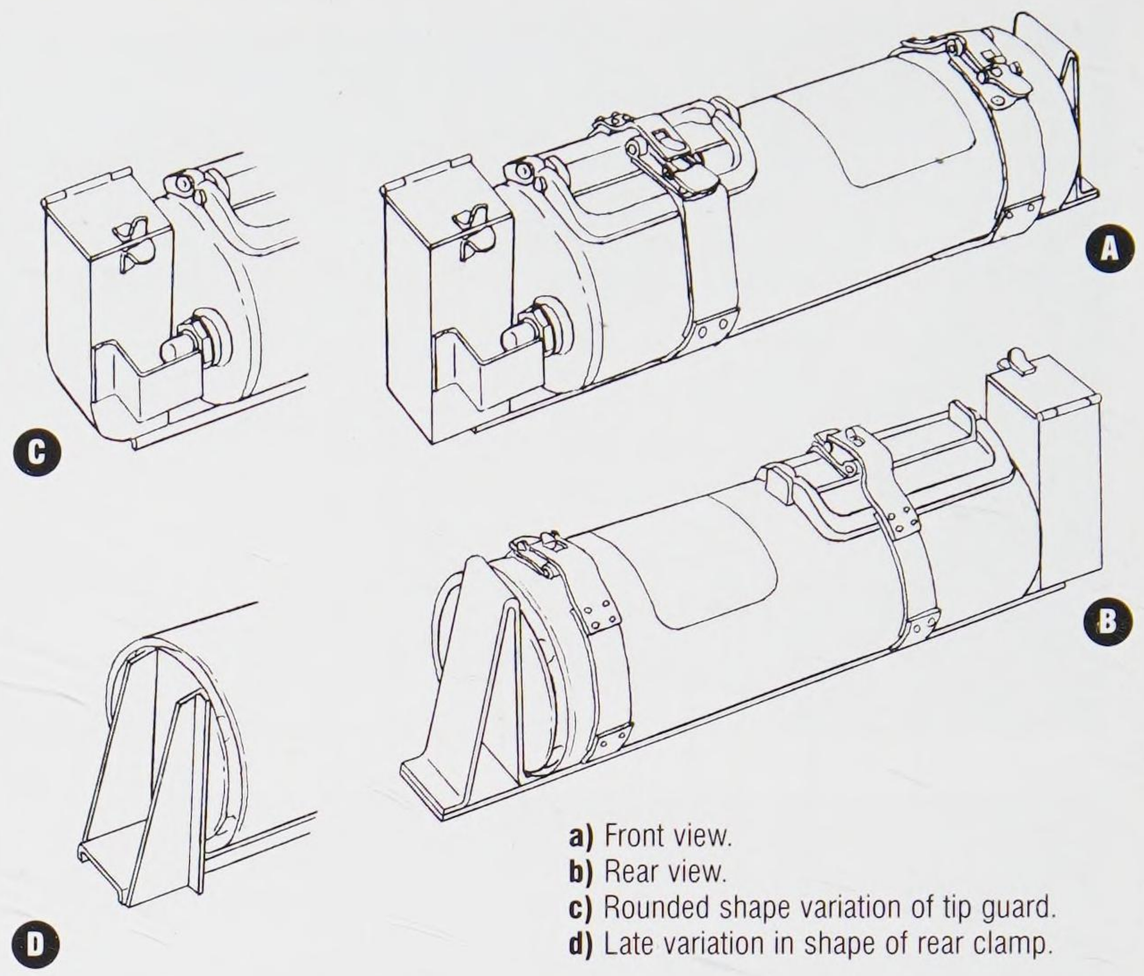
Fig. IE-3 Engine intake cap



a) This is the original welded design for the air intake cover on the rear engine hatch. This drawing also illustrates the details of the Feifel trunk.

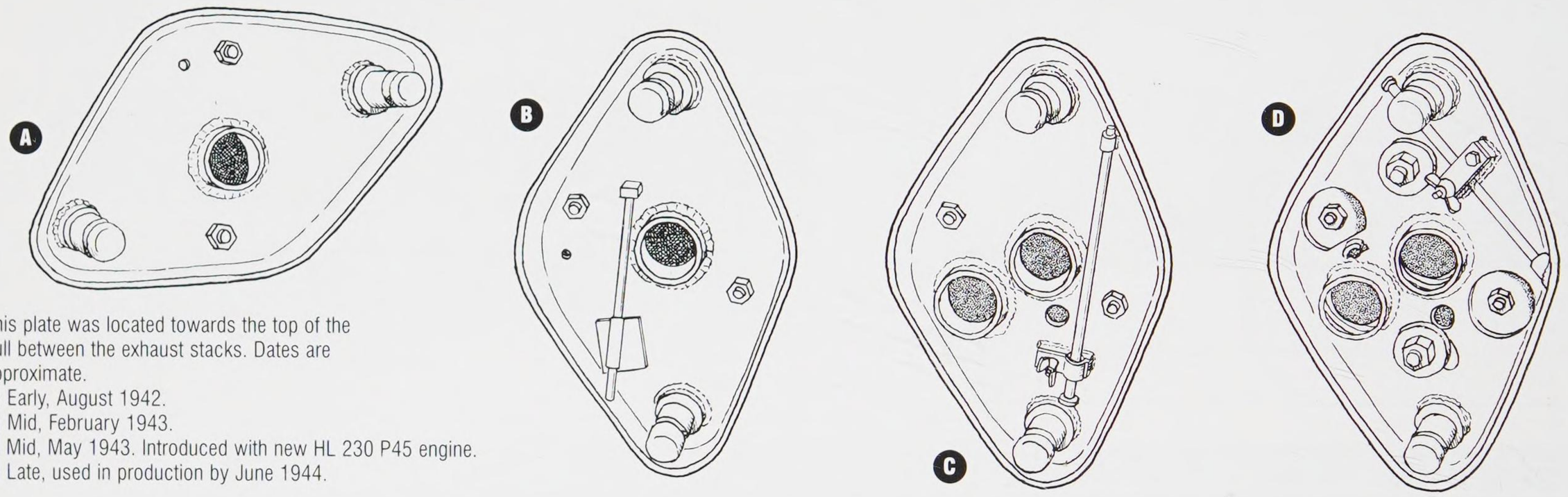
b) By the production of chassis number 250493, the requirement for submerged deep wading was dropped to make the Tiger easier to build. At this time, the forged cap over the engine hatch intake replaced the original welded type.

Fig. IE-5 Deck mounted fire extinguisher



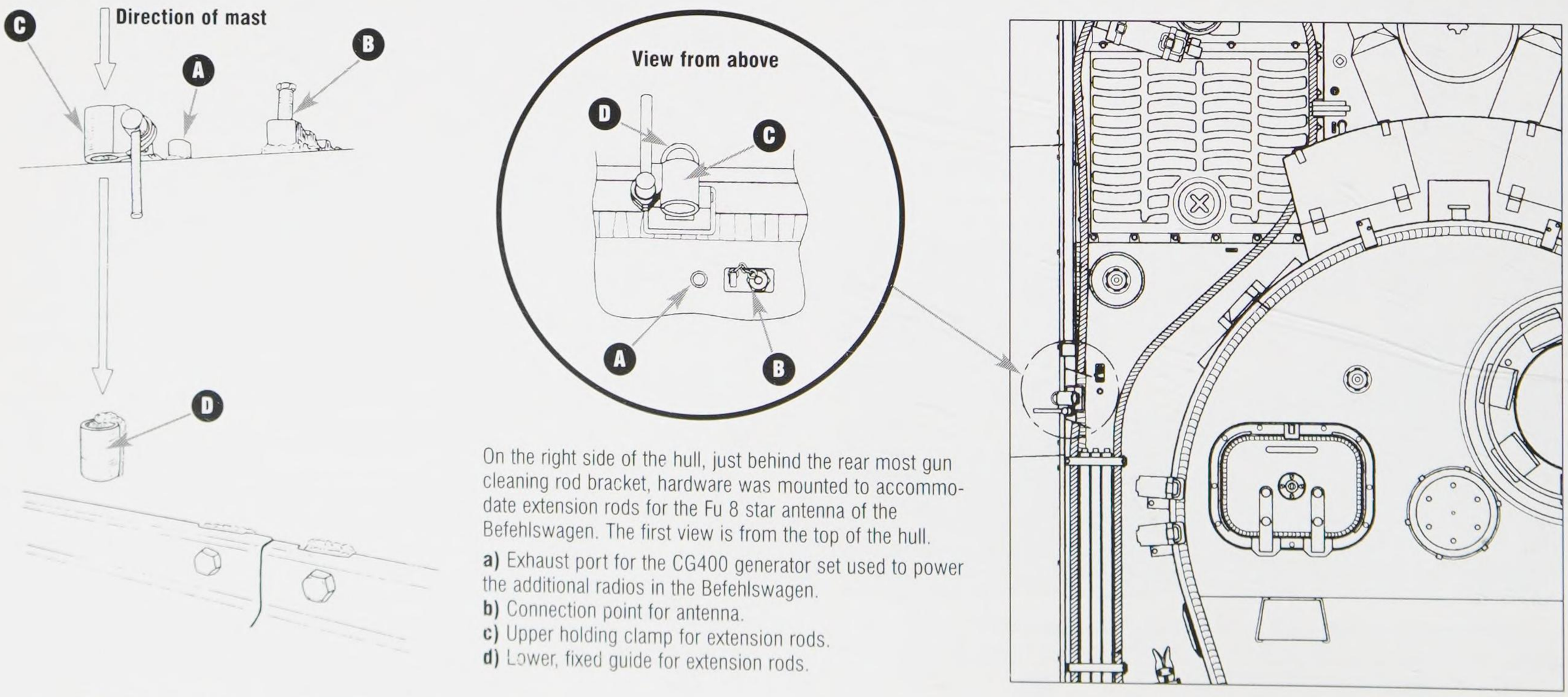
a) Front view.
b) Rear view.
c) Rounded shape variation of tip guard.
d) Late variation in shape of rear clamp.

Fig. IE-4 Progression of external starter guide plates



This plate was located towards the top of the hull between the exhaust stacks. Dates are approximate.
a) Early, August 1942.
b) Mid, February 1943.
c) Mid, May 1943. Introduced with new HL 230 P45 engine.
d) Late, used in production by June 1944.

Fig. IE-6 Mounts for elevating star antenna on the Befehlswagen



On the right side of the hull, just behind the rear most gun cleaning rod bracket, hardware was mounted to accommodate extension rods for the Fu 8 star antenna of the Befehlswagen. The first view is from the top of the hull.
a) Exhaust port for the CG400 generator set used to power the additional radios in the Befehlswagen.
b) Connection point for antenna.
c) Upper holding clamp for extension rods.
d) Lower, fixed guide for extension rods.

Rear hull configurations

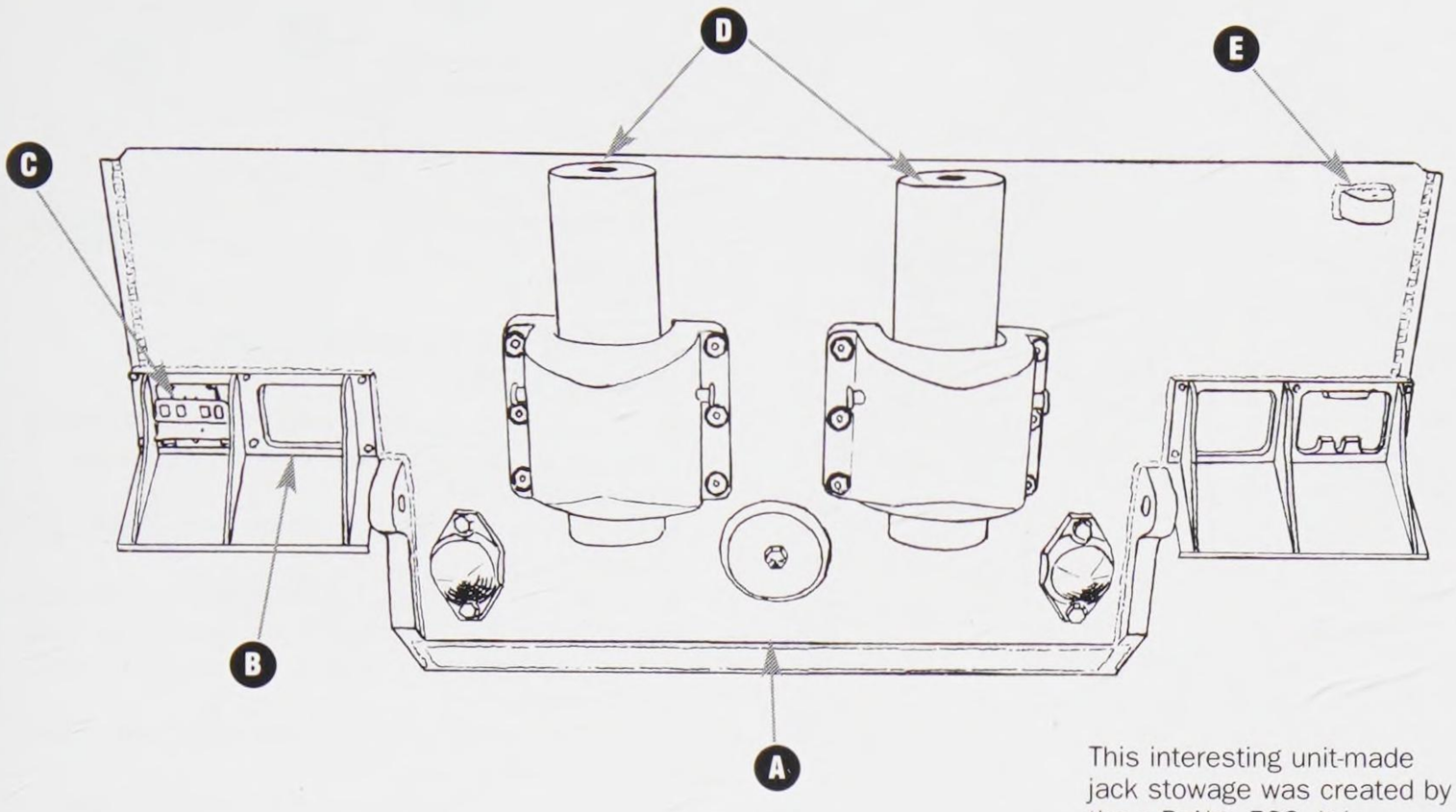
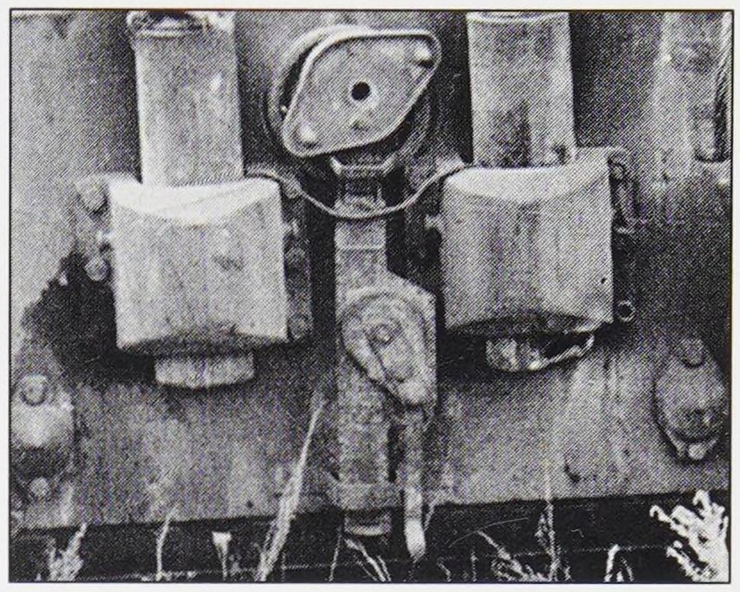


Fig. IF-1 Prototype (May 1942)

a) No tow pintle.
b) Frames were welded to the rear hull plate to mount bolted on rear track guards.
c) Original rectangular Notek black-out taillight.
d) Exhaust mufflers had open tops.
e) External antenna mount.



This interesting unit-made jack stowage was created by the s.PzAbt. 503. It is installed on a early January 1943 production vehicle and was photographed in the summer of 1943.

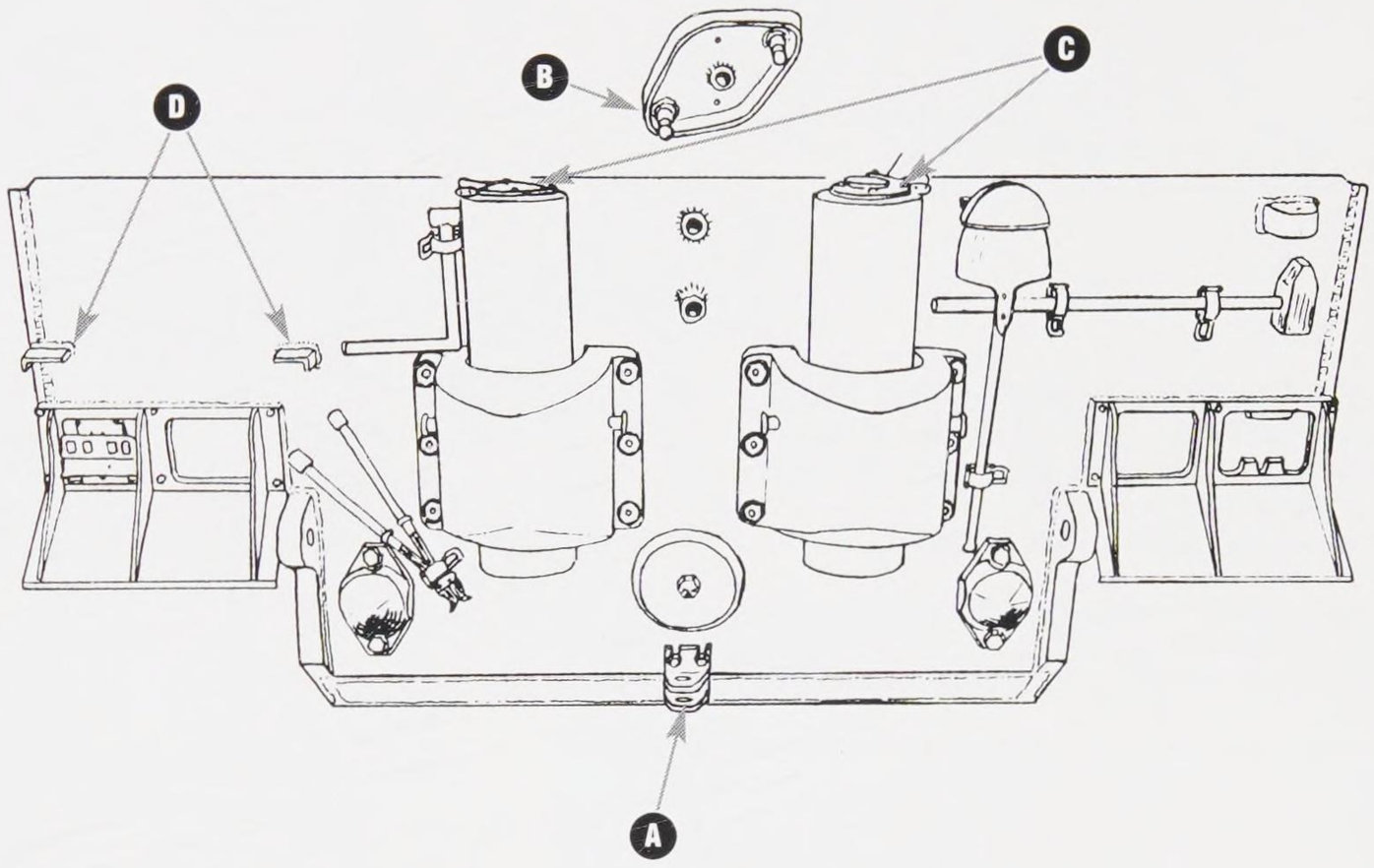


Fig. IF-2 First configuration (Late Summer 1942)

As seen on a Tiger of the s.PzAbt. 502 in early September. In addition to the noted production changes, this vehicle carried a non-standard tool arrangement on the rear hull. This was most likely accomplished by the unit workshop.

a) Rear tow pintle added.
b) Two tubes were welded to the tail plate between the exhaust pipes to hold the guide plate for the hand-cranked engine starter; the plate was mounted diagonally.
c) A hinged flapper valve was installed on each exhaust outlet to prevent water intrusion during deep wading.
d) These brackets are unique to this unit and tank, This may have been an early attempt to stow the jack.

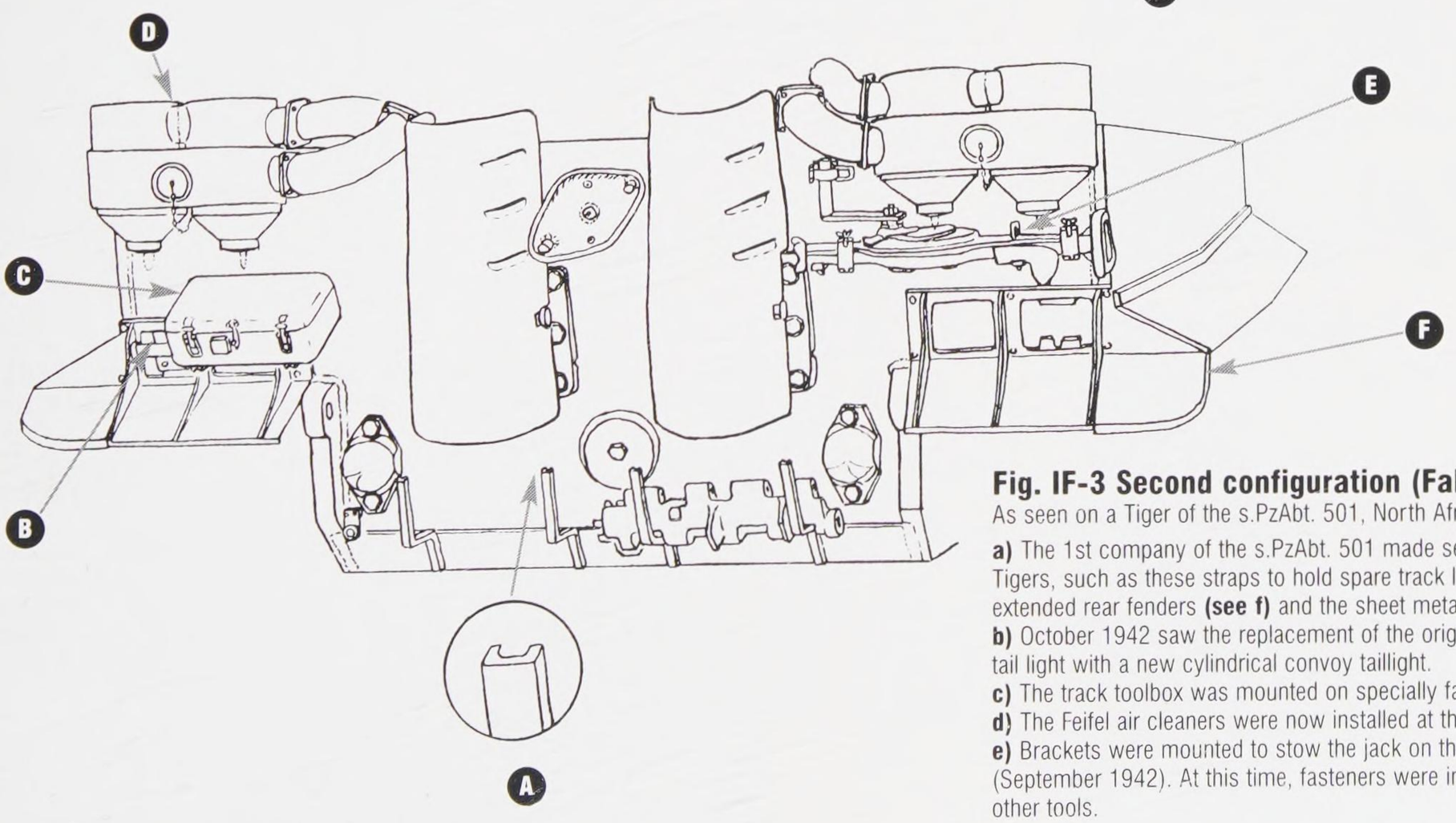
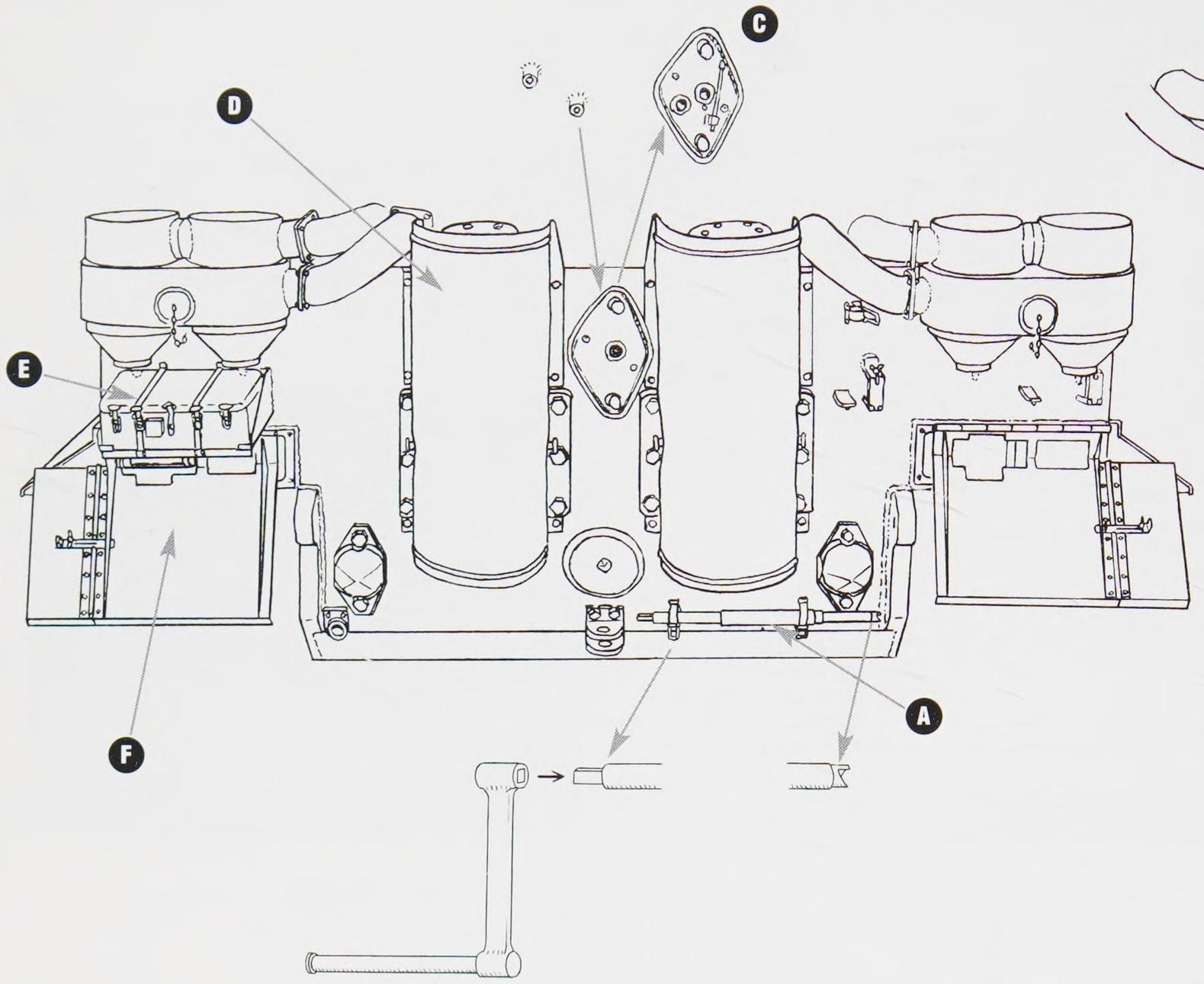


Fig. IF-3 Second configuration (Fall 1942)

As seen on a Tiger of the s.PzAbt. 501, North Africa in December.

a) The 1st company of the s.PzAbt. 501 made several special modifications to its Tigers, such as these straps to hold spare track links. Other modifications were the extended rear fenders **(see f)** and the sheet metal covers for the exhaust stacks.
b) October 1942 saw the replacement of the original rectangular Notek "cat's eyes" tail light with a new cylindrical convoy taillight.
c) The track toolbox was mounted on specially fabricated brackets by the 501.
d) The Feifel air cleaners were now installed at the factory as of November 1942.
e) Brackets were mounted to stow the jack on the tail plate as of chassis 250011 (September 1942). At this time, fasteners were installed also on the upper deck for other tools.



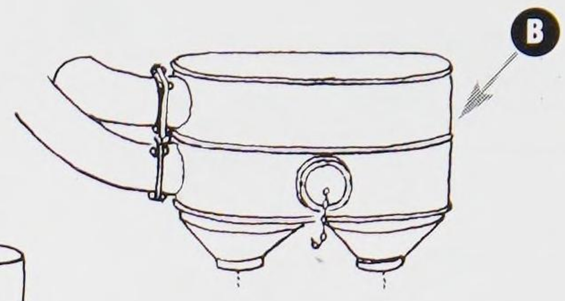


Fig. IF-4 Third configuration (Spring 1943)

a) February 1943 saw the installation of brackets on the lower left tail plate for holding the shaft for the hand-cranked starter.
b) Modified, simpler Feifel air cleaners were installed as of March 1943.
c) The HL 230 P45 engine introduced in May 1943 had a new mount and this required drilling a second hole in the inertial hand starter guide plate to align the starter shaft with the engine.
d) The more familiar production type exhaust heat shields were introduced in January of 1943.
e) A permanent mount for the track toolbox and a new toolbox were introduced in December of 1942.
f) New folding rear mudguards were introduced in November 1942 (see IG-5).

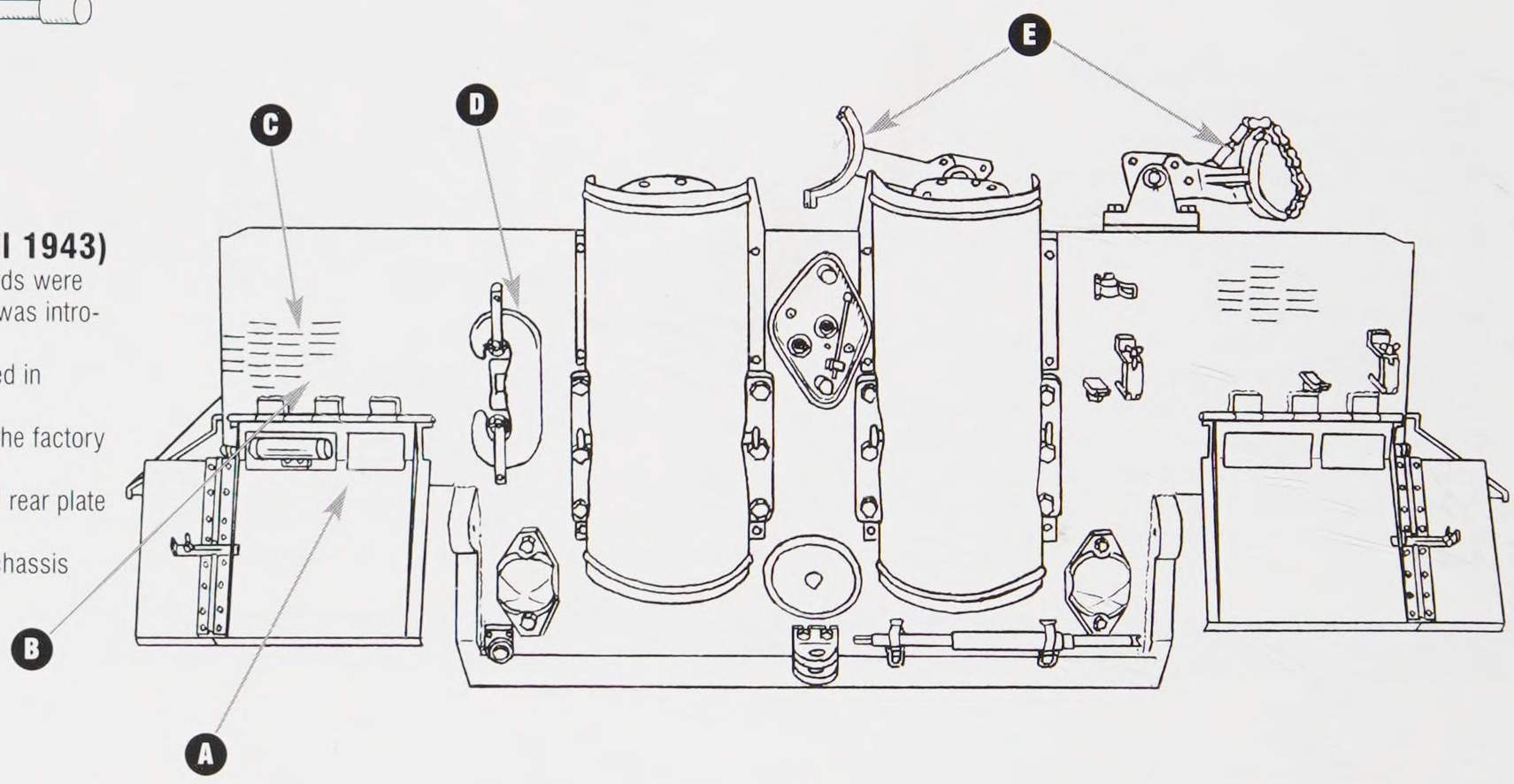


Fig. IF-5 Fourth configuration (Fall 1943)

a) Heavy welded frame mounts for the mudguards were deleted and a new design with three hinge tabs was introduced by May of 1943.
b) The track toolbox on the rear plate was deleted in October 1943.
c) Zimmerit anti-mine cement coating added at the factory starting in August 1943.
d) "C" shaped tow hooks were added to the hull rear plate on the left as of September 1943.
e) An external gun travel lock was added as of chassis number 250635 in November 1943.

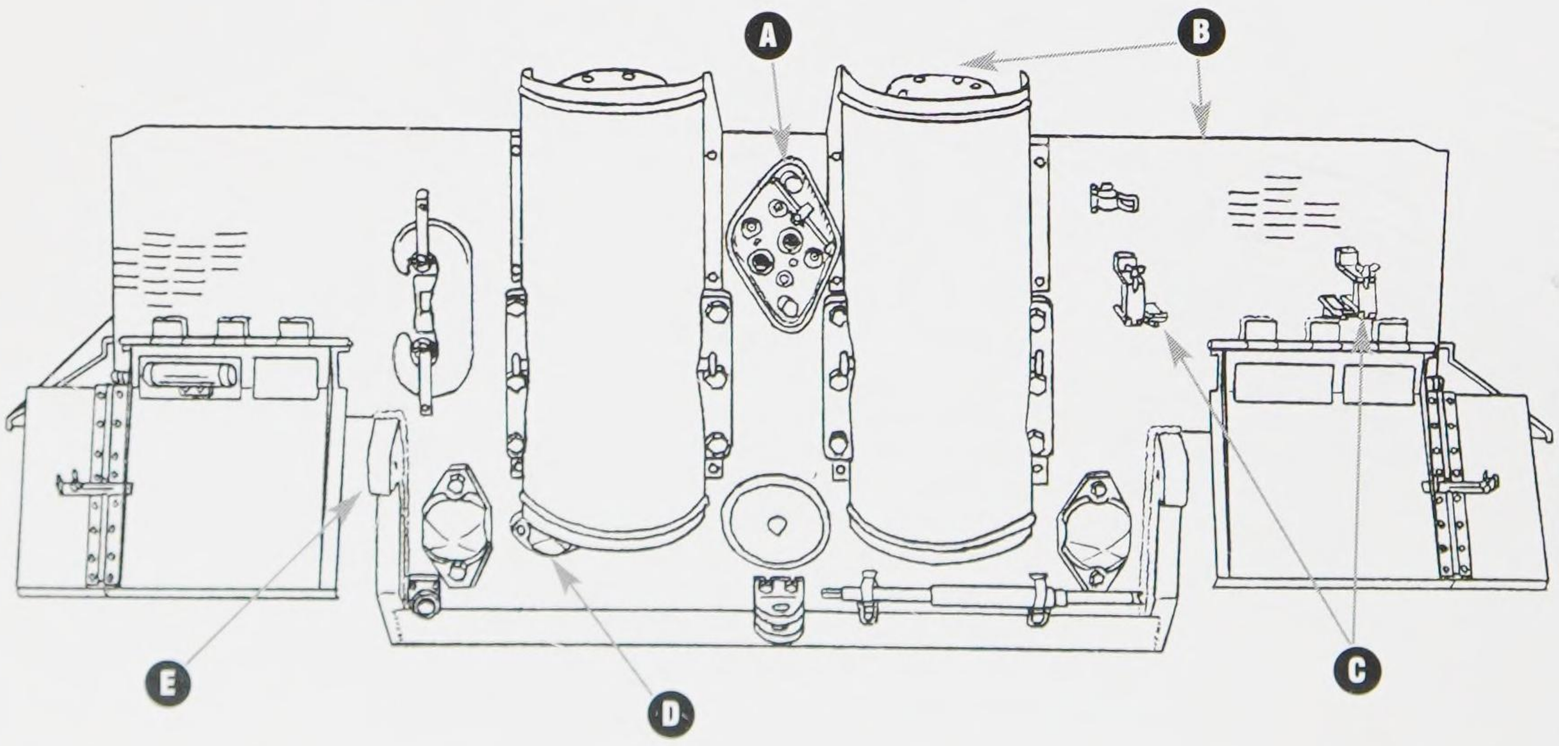


Fig. IF-6 Final configuration (Early 1944)

a) Mounting bolts were added to the external engine starter guide plate.
b) The external gun travel lock was deleted by February 1944.
c) Revised jack brackets for a 20-ton (rather than a 15-ton) jack were introduced in January 1944.
d) A new heater for the engine coolant appeared. It used a blowtorch hung from a fitting on the rear plate to heat the coolant through a hole cut below the left exhaust armor cover.
e) The rear tow hook bases were cut away for additional clearance for the large "C" shaped tow hook starting in January 1944 (the front bases were also reshaped).

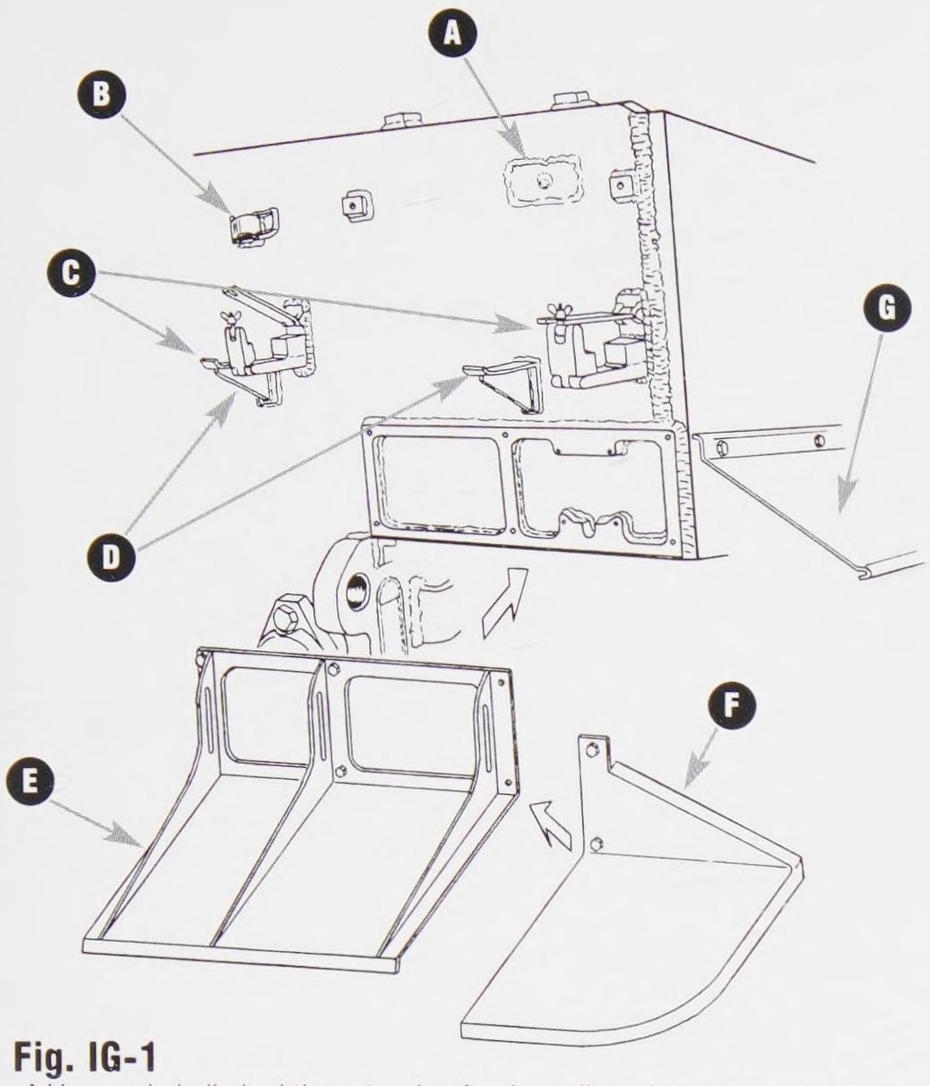


Fig. IG-1

a) Very early hulls had the extension for the radio rod antenna at the right rear corner of the hull cut off and the slot in the rear armor was filled in. This feature can be seen on tanks manufactured as late as January 1943.
b) This clasp held the jack handle when it was installed on brackets below.
c) Brackets to secure 15-ton jack.
d) Supports for jack used in conjunction with the brackets.
e) Original style fixed removable fender secured to threaded holes in base plate with six-bolts.
f) These removable side guards were used by the 1st company of the s.PzAbt. 501 in North Africa.
g) Early style bolted on mudguards (note the crimped ends).

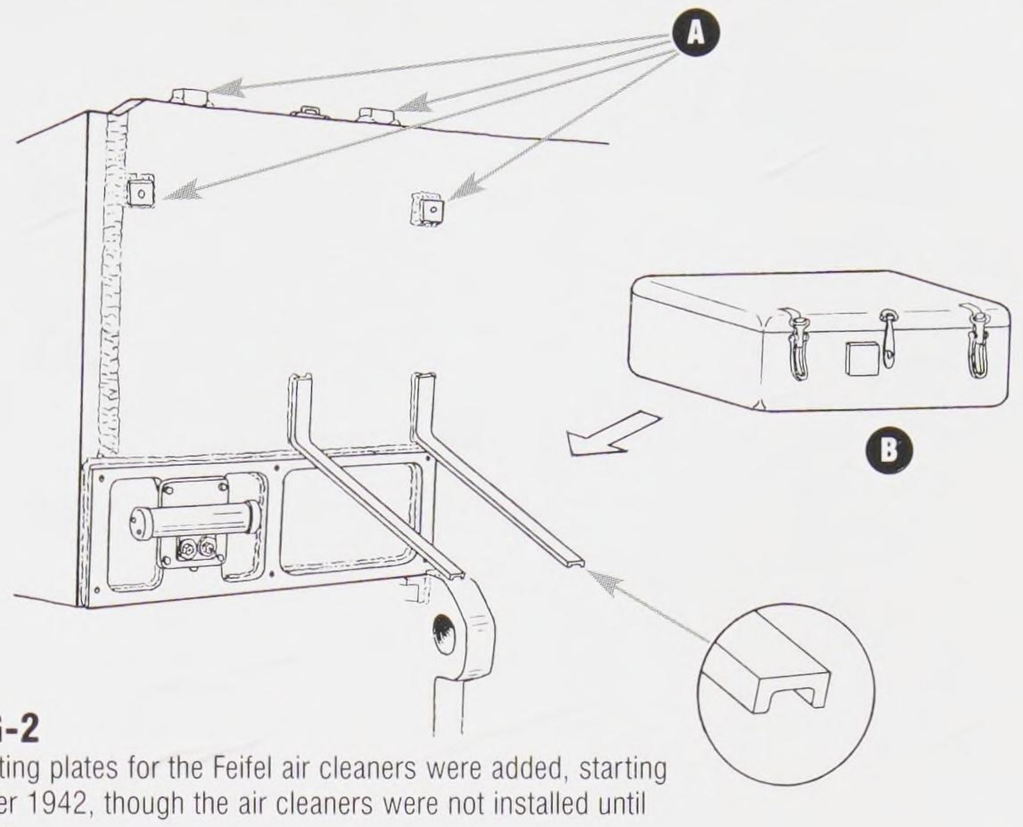


Fig. IG-2

a) Mounting plates for the Feifel air cleaners were added, starting in October 1942, though the air cleaners were not installed until November.
b) A track tool stowage box, normally installed inside the tank, was added to the lower left rear plate above the left rear track guard by the 1st company of the s.PzAbt. 501 in North Africa. Bent sections of stock were used.

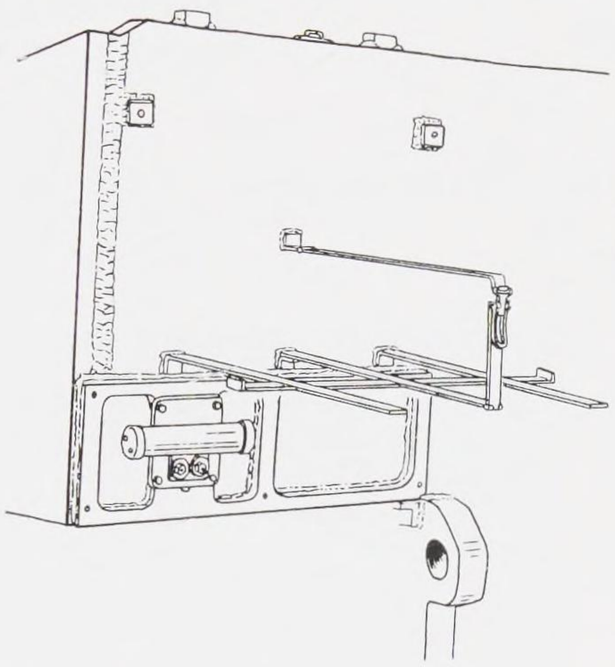


Fig. IG-3

This is another example of the unit made bracket for the track tool stowage box.

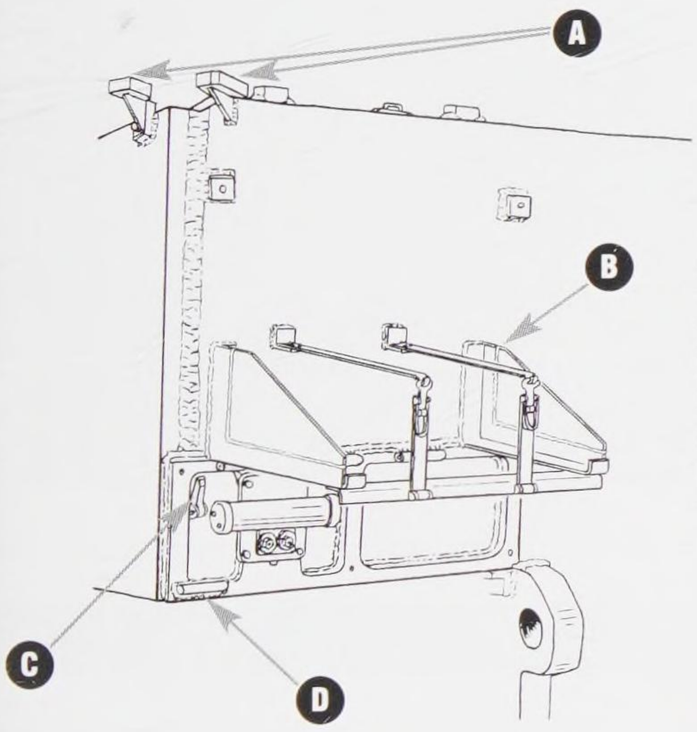
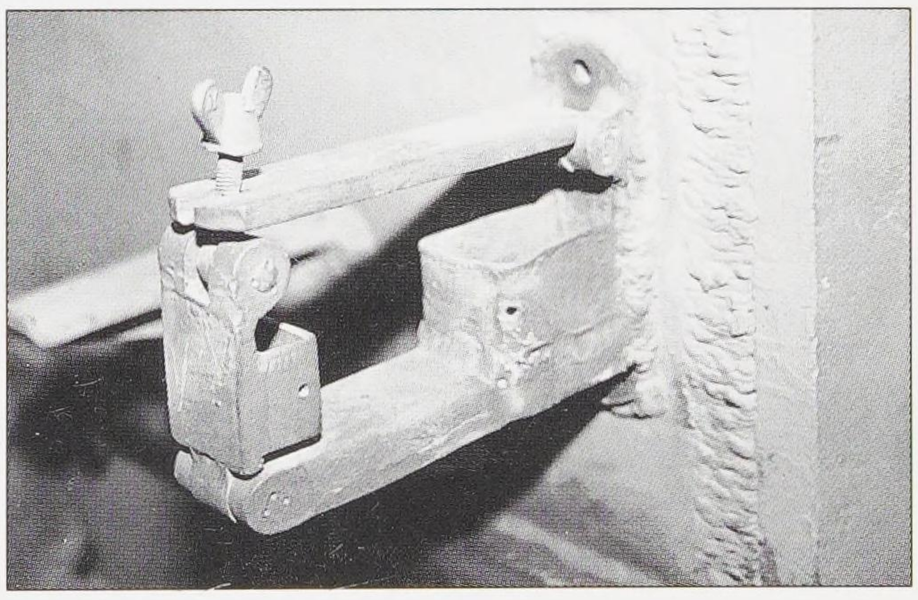


Fig. IG-4

a) Starting in December 1942, all Tigers now had the mounting bases for the S-mine dischargers.
b) Also starting in December, a factory-produced frame was added for mounting the track tool stowage box.
c) Locking tab for rear mudguard when lowered.
d) Bumper stop for rear mudguard.



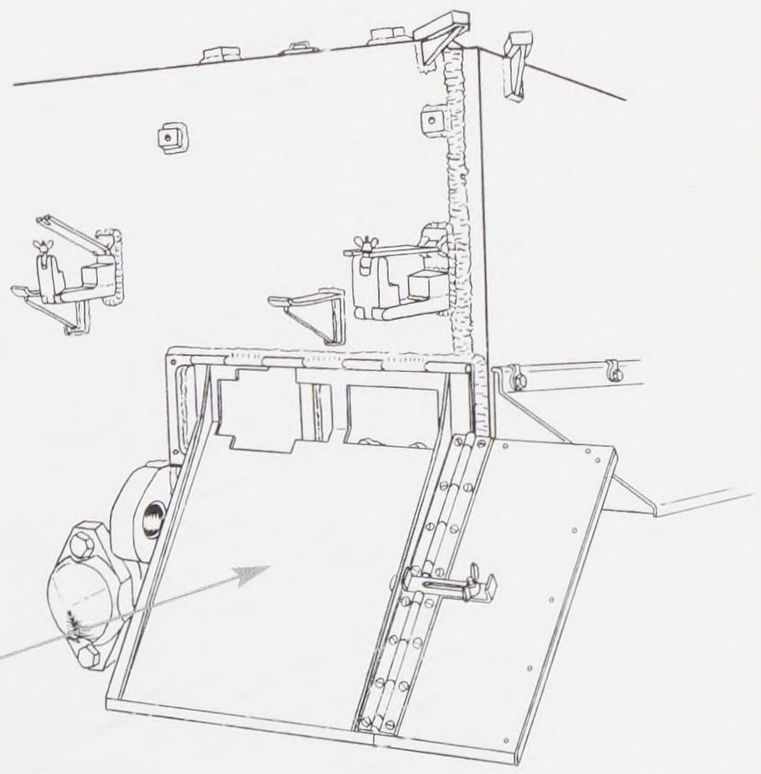
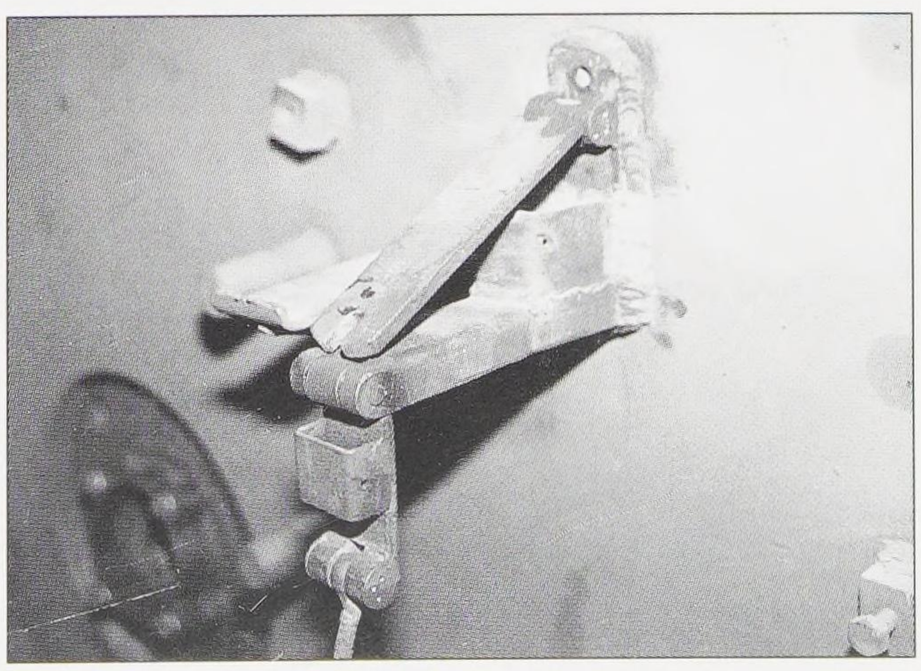


Fig. IG-5

a) In November 1942, the front and rear track guards were replaced by a new design with hinged outer sections that were folded up during transport. This new design was attached to the hull using a single hinge. This was still mounted to the older frame.



Hull details

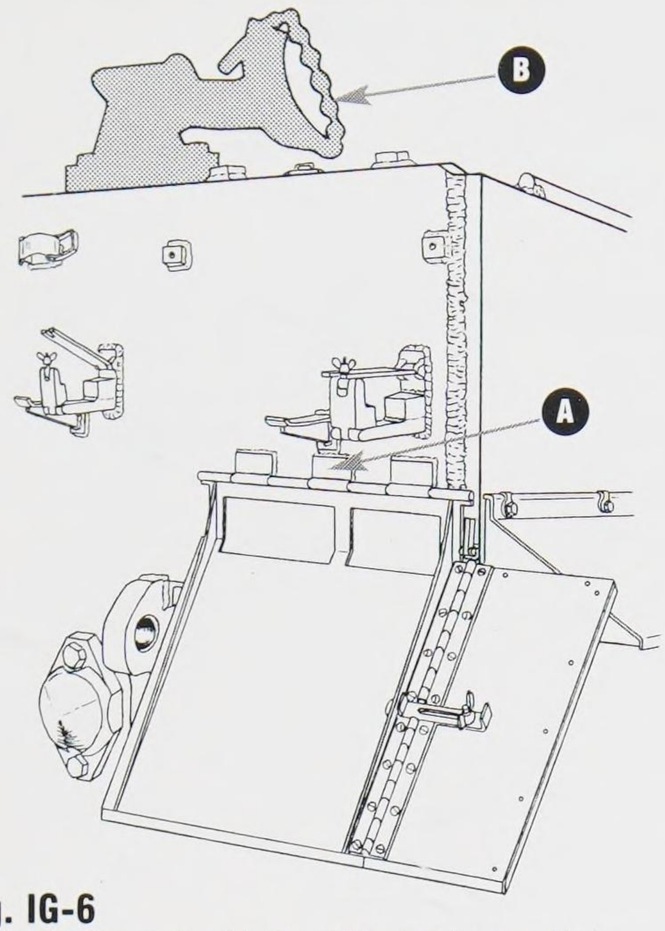


Fig. IG-6
a) May 1943 saw the deletion of the prominent welded frames on the tail plate for the rear track guards and the installation of new track guards hinged at the upper edge on three plates welded to the rear hull plate.
b) The rear hull travel lock added in November 1943.

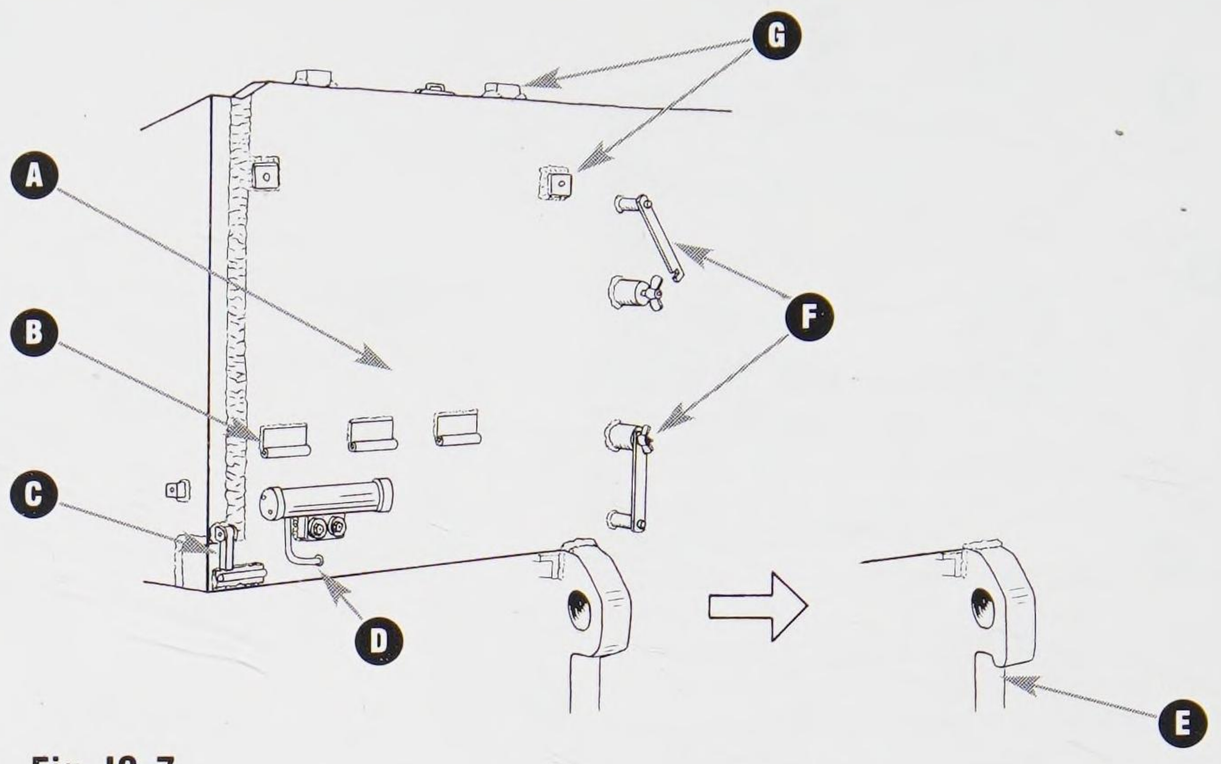


Fig. IG-7
a) The track toolbox and its mount were discontinued in October 1943.
b) These are the small hinge tabs welded to the hull to attach the fenders.
c) Lock tab for rear mudguard in down position.
d) Conduit for rear taillight.
e) Starting in January 1944, the rear hull extensions were cut away to accommodate the C-shaped tow hook.
f) Brackets for holding the C-shaped tow hooks were added to the rear hull in September 1943.
g) Although the Feifel system was discontinued in October 1943, the mounting bolts were still seen on tanks produced until December 1943.

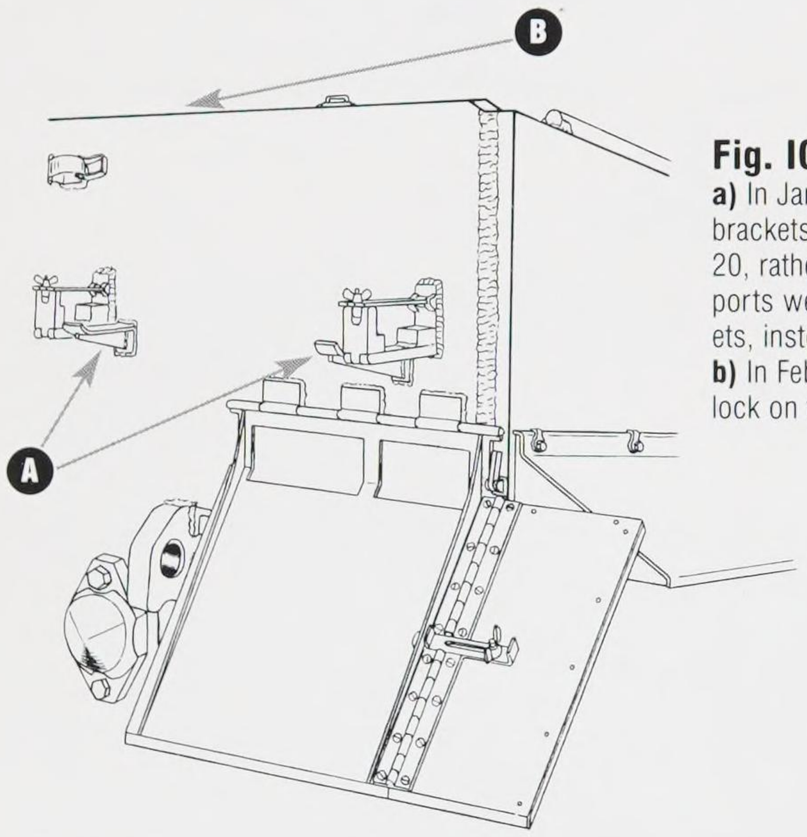
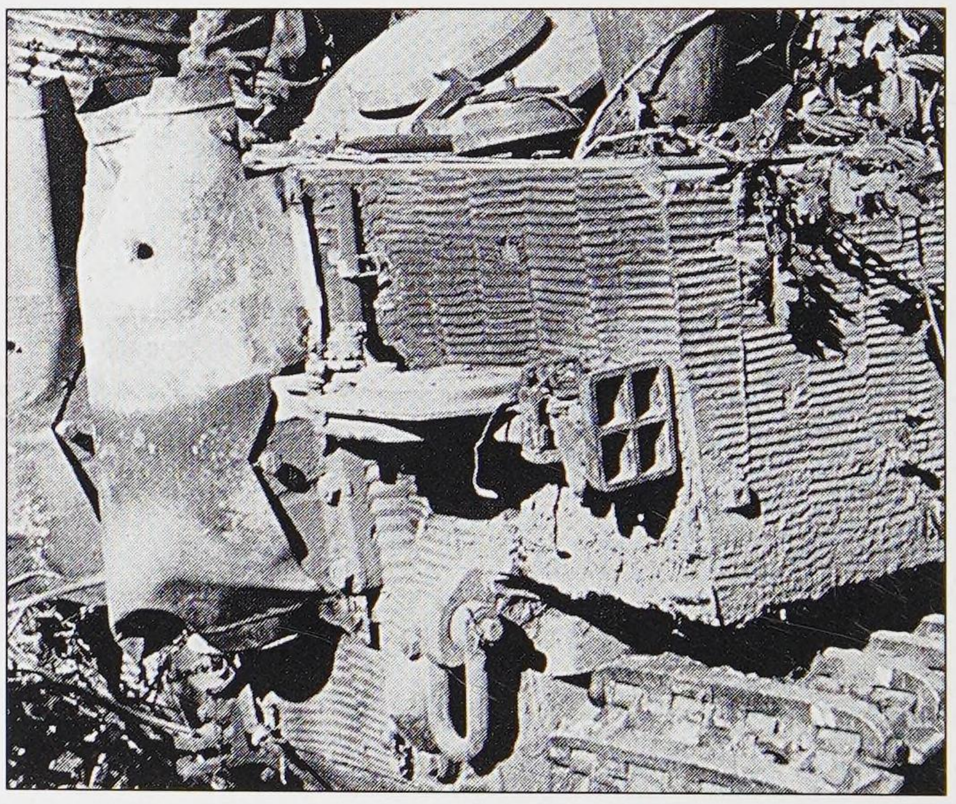
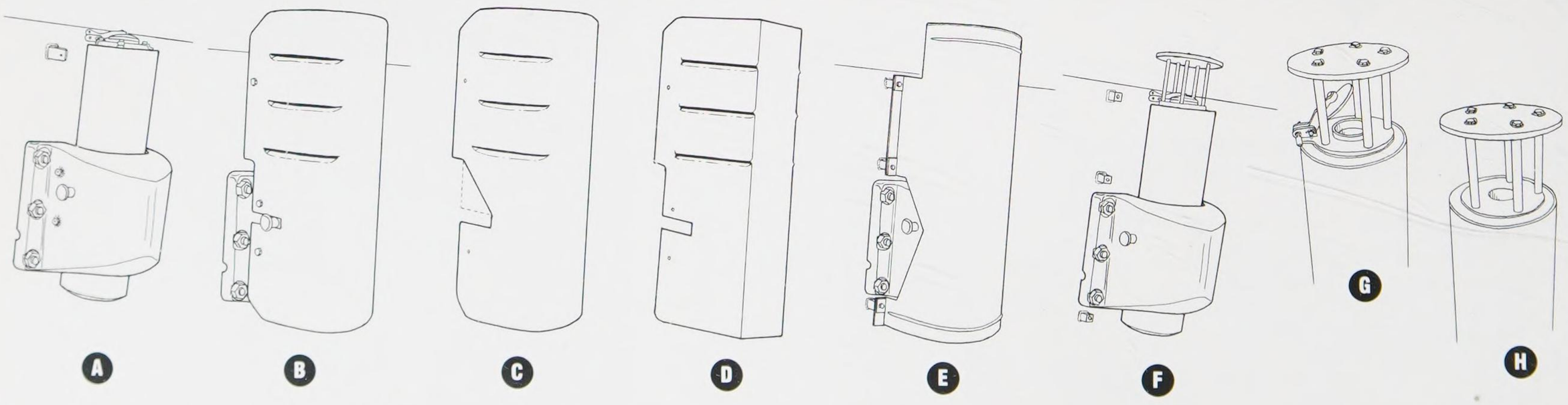


Fig. IG-8
a) In January of 1944, the rear jack brackets were modified to accommodate a 20, rather than 15-ton jack. The offset supports were now located between the brackets, instead of on either side.
b) In February 1944, the external gun travel lock on the rear hull was dropped.



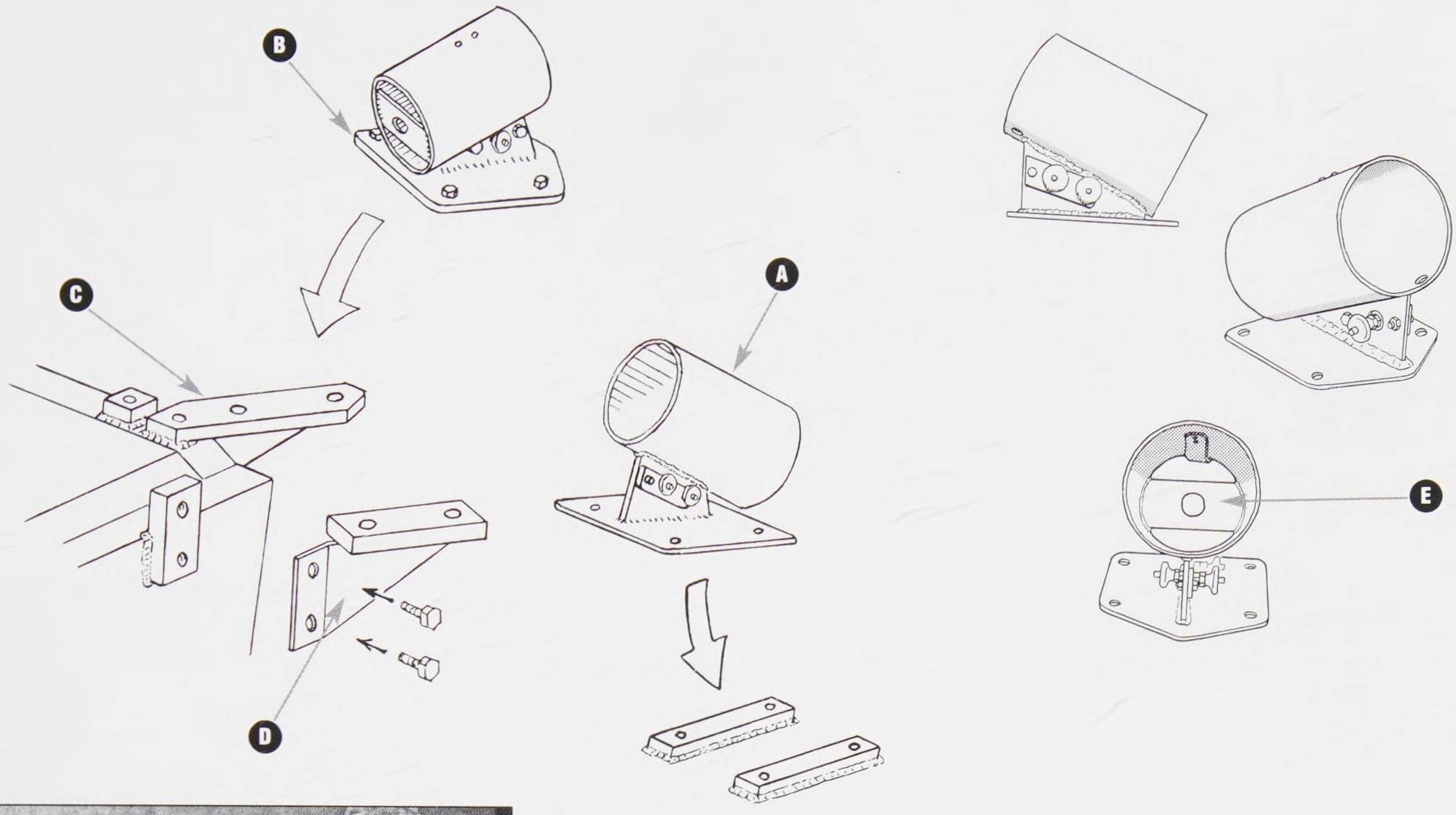
A good example of the 20-ton jack can be seen on this late production Tiger I of the SS 102 s.PzAbt.

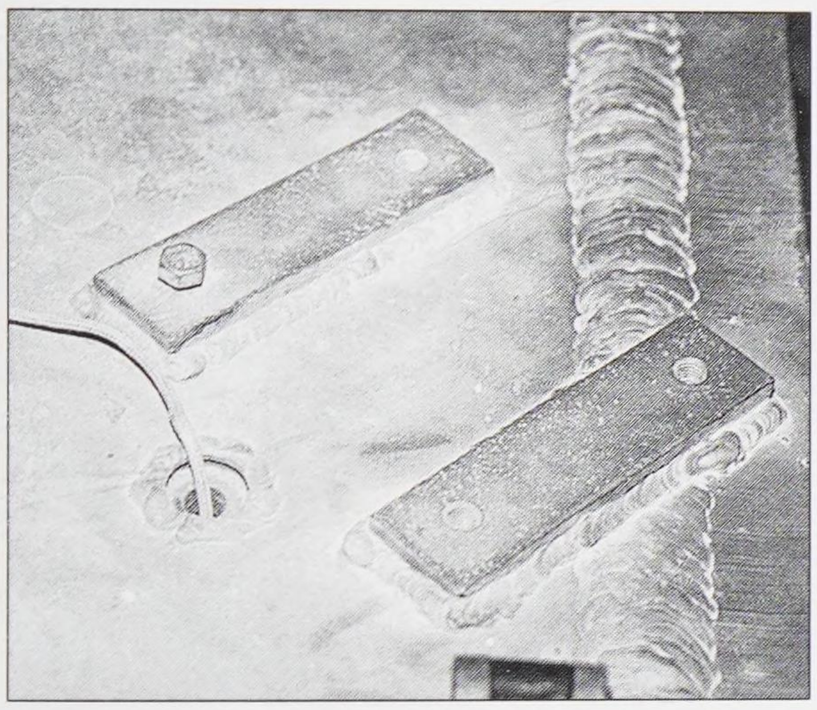
Rear exhaust progression



a) This is the original pattern of the exhaust stack as of August 1942, when a flapper was added to the top to prevent water from entering it during fording.
b) Sheet metal shields were added by the workshop company of the s.PzAbt. 501 in North Africa.
c) The guards were sometimes rounded. The cut-away indicates the inside of the guard.
d) This is the square shaped guard.
e) Starting in January of 1943, sheet metal guards were added to cover the exhaust pipes and armored covers.
f) At the same time, round covers were added above the pipe outlets. Note the various mounting points for the shields.
g) The exhaust stack as completed until October of 1943.
h) This is the new configuration as of that month, with the flap deleted.

S-Mine launchers

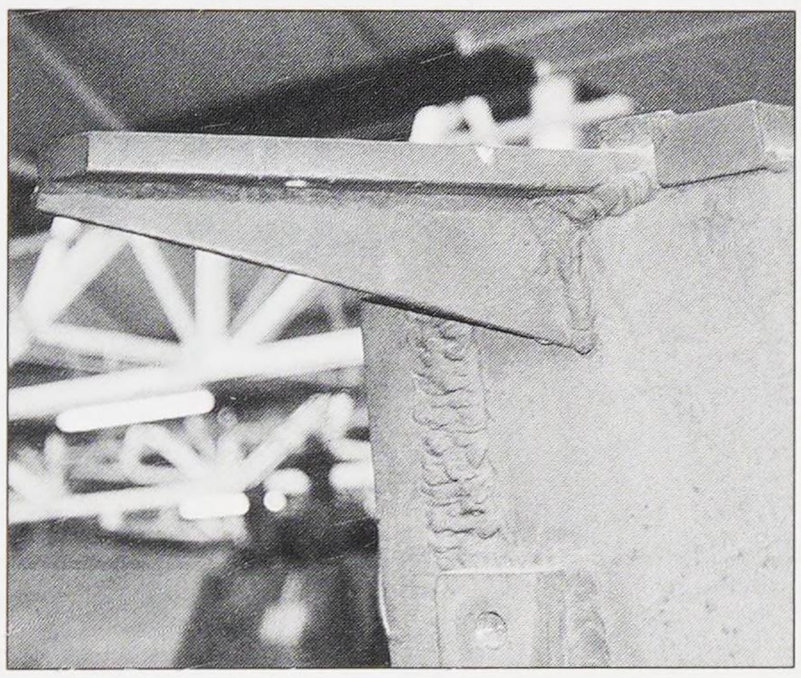




The forward left mounting brackets of the Bovington Tiger I. All of the S-Mine launchers had a small hole located nearby to feed the electrical lead for ignition. The leads for the rear launchers were run into the engine grates. This photo also provides an excellent perspective of the top hull weld bead.

Starting in January 1943, S-mine dischargers were now installed at the factory, five for the standard Tiger tank and four for the Panzerbefehlswagen command tank.

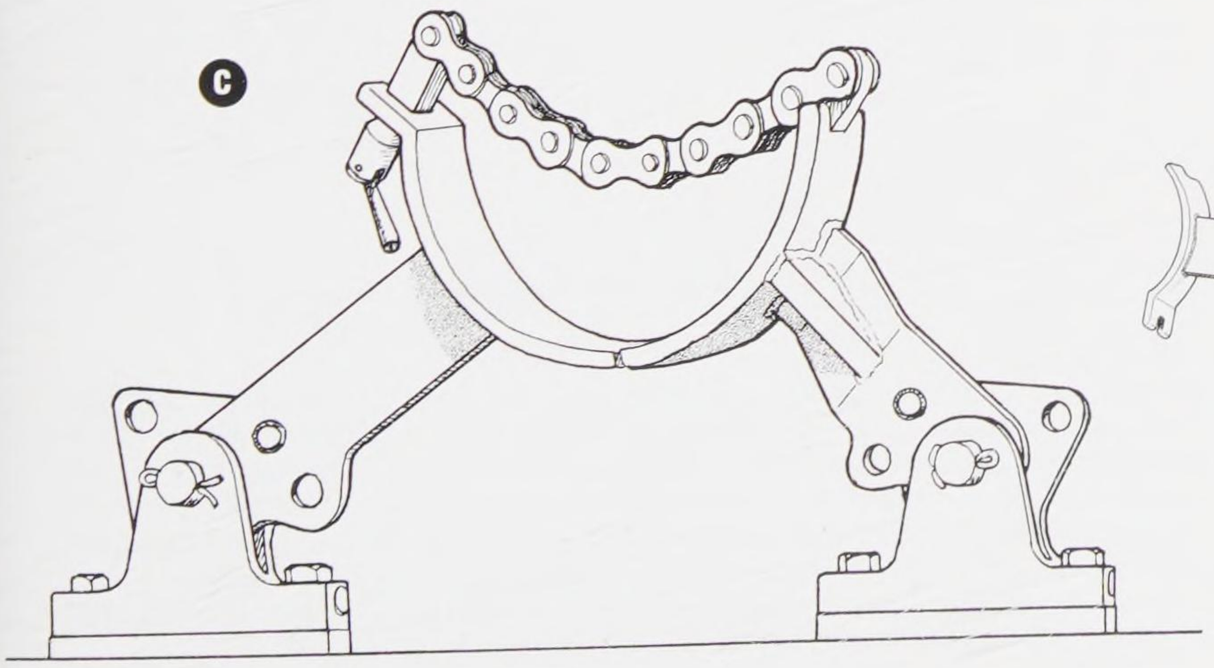
a) Mounting plates had already been mounted to the hull as early as December 1942. Three of the five launchers had a square base as shown here.



b) The unit mounted on the corner of the hull had a triangular-shaped base plate.
c) The rear-mounted unit used a welded on bracket and...
d) a bolted-on bracket.
e) All the units were open at the rear with a central, rounded strap. Note the interior clip to hold the mine in place

This is the left rear S-Mine bracket. It was one of two on each side that held the launcher away from the hull. Also note the weld bead in this shot and one of the rear Feifel system mounting bolts.

External gun travel lock details



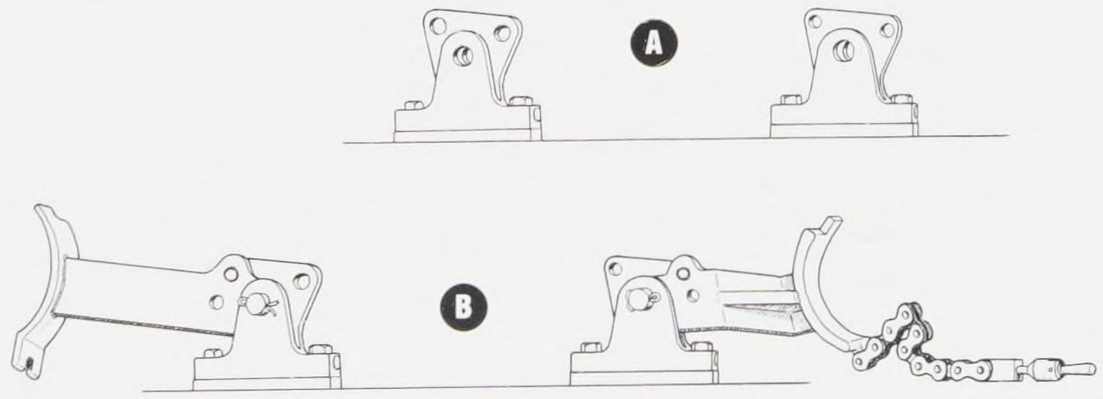


Fig. IG-14
In November 1943 a new external gun travel lock was installed at the right rear corner of the hull.

a) The base plates of the lock. Note the shape of the rear portion.
b) The travel lock in the open position.
c) The travel lock in the closed position

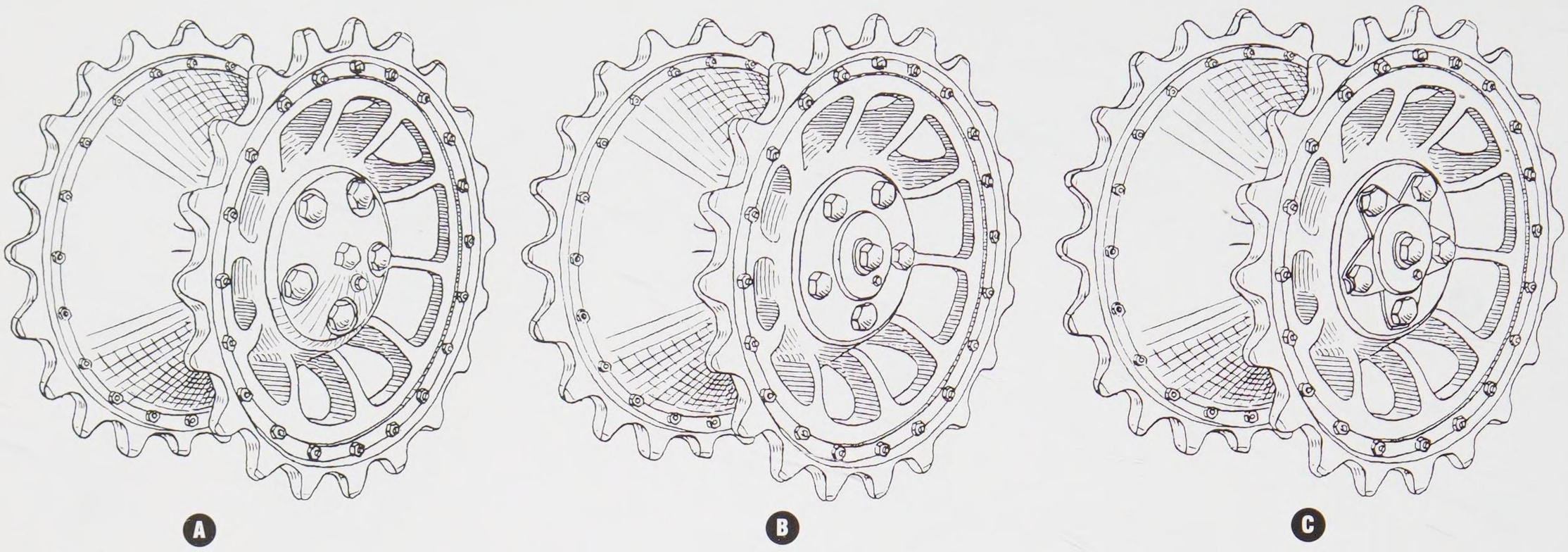
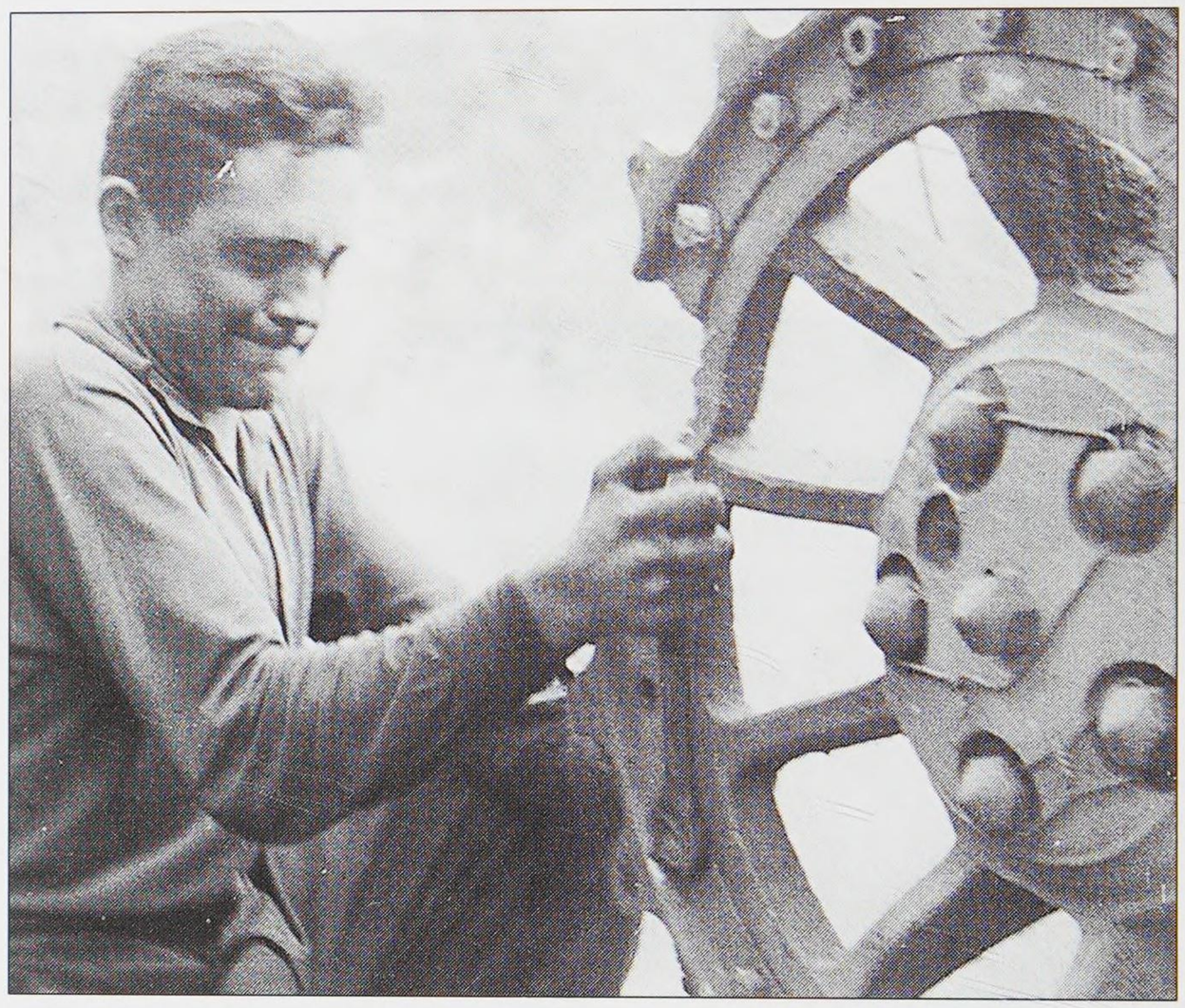


Fig. IH-1
a) In August of 1942, the drive sprocket toothed rings were realigned so the hub spokes were lined up between the outer teeth, not in line with them.
b) In April 1943, the drive sprocket hub was machined flat.
c) Starting in June 1944 (chassis number 251205), a star-shaped fixture was added to the sprocket face to secure the bolts against vibration.



Prior to the introduction of the locking tabs, wire was sometimes welded to the hub face to help keep the sprocket bolts from working loose. As the outer sprocket ring was a separate part, it could be removed and replaced. Apparently, working loose the ring bolts was a fairly difficult task! (BA)

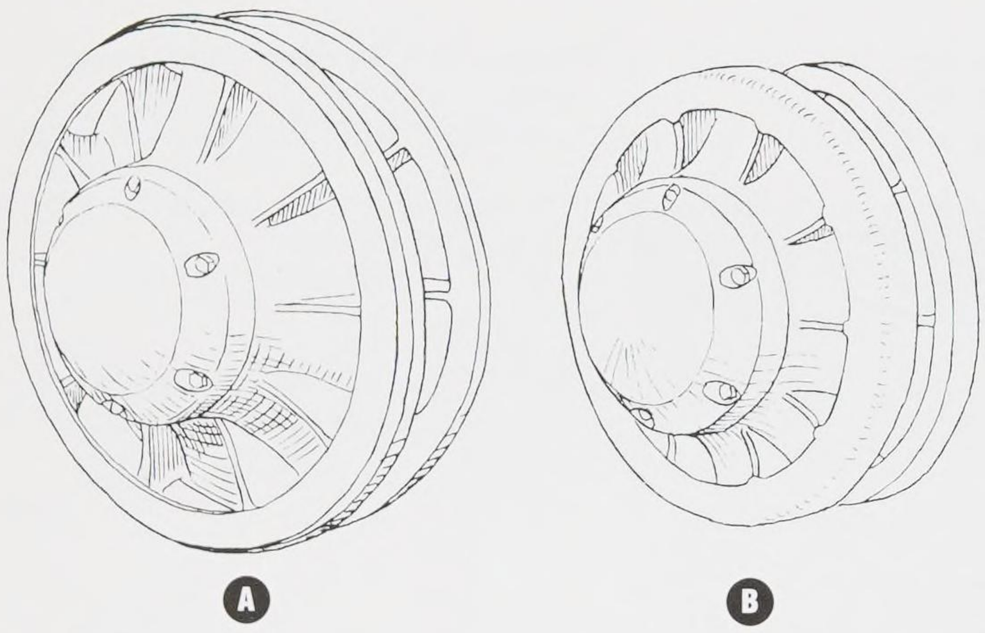


Fig. IH-4
To reduce the amount of mud and debris that built up on the idler wheel, the original 700mm diameter rear idler **(a)** was replaced with a smaller 600mm design **(b)**.

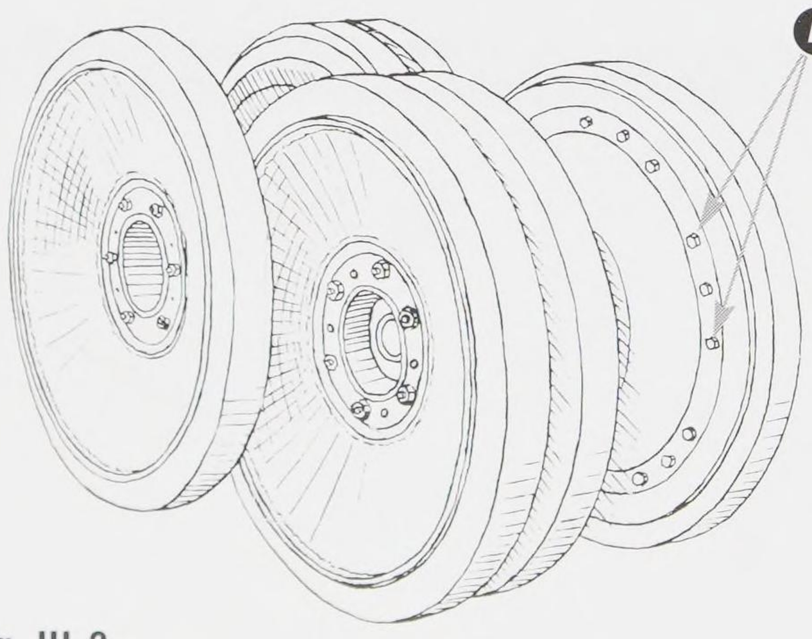


Fig. IH-2
Rubber tire road wheels were used on the Tiger from chassis number 250001 to 250821.
a) In February 1943, two smaller bolts were added to the road wheels to reinforce each of the six rim mounting bolts. Later in April of 1943, the number of rim mounting bolts was increased to 12.

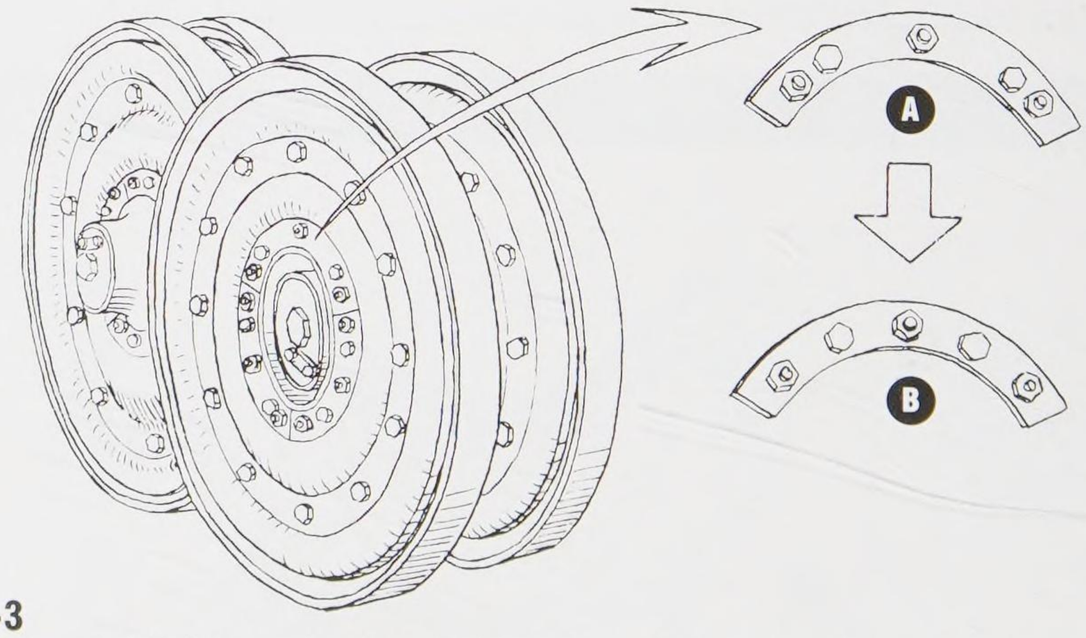
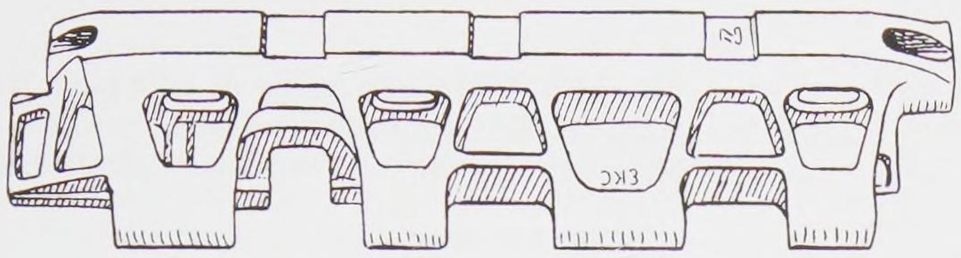
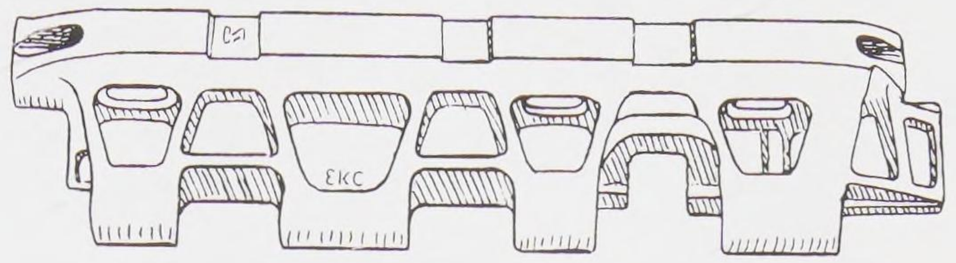


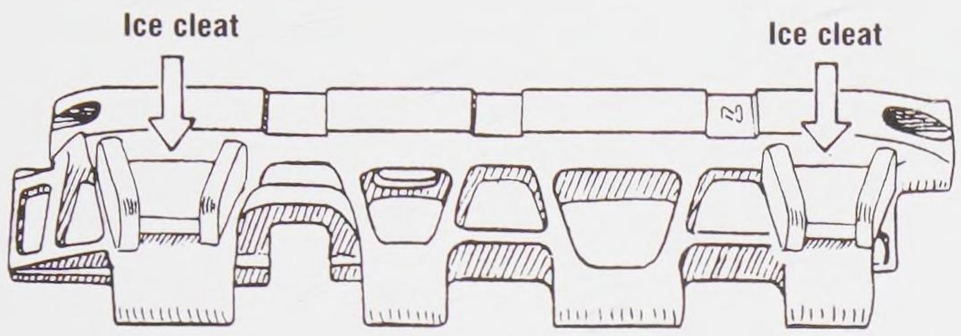
Fig. IH-3
As of chassis number 250822, produced in February 1944, new steel-tired road wheels were introduced. Designed to conserve rubber, they had pressed steel discs bolted together retaining two rubber rings that in turn supported the external steel tire. There were only two road wheels per axle station instead of the previous three. This saved time and effort when changing tracks for rail transport. At least three types of wheels have been identified, with very minor differences between each type. The differences can be found in the shape of the inner wheel where it meets the steel tire.
a) The bolt and strips holding on the center hubs of the roadwheels had a tendency to work loose.
b) So... in April 1944, the bolts in the steel-tired roadwheels hubs were relocated.



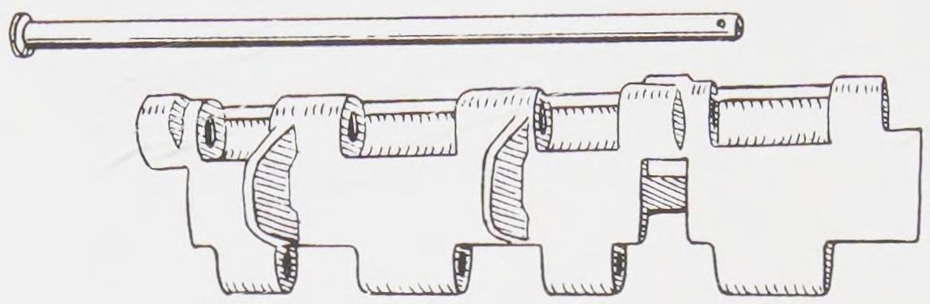
A



B



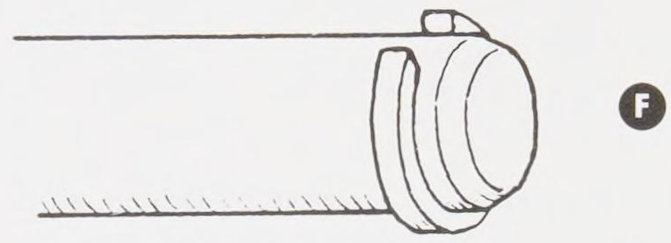
C



D

Fig. IH-5

a, b) The first 20 Tigers produced contained 725mm combat tracks that were "handed," built separately for each side.
c, d) A new track was introduced in October 1942 in which the links were identical for both runs. The left track was mounted "backwards," since that track had to be reversed. Bolt-on ice cleats (indicated by arrows) could be added for extra grip in icy conditions (also see page 13).
e) In October of 1943, the first Tigers appeared with tracks having ice cleats cast into the link cross bars.
f) The original design for the track-retaining pin utilized this cotter ring.
g) In March 1943, new track pins and locking rings were introduced to prevent the pins from slipping out of the track links.
h) The 520mm transport track was installed to move the Tiger I by rail. The cotter ring for the track pin was used throughout its production.



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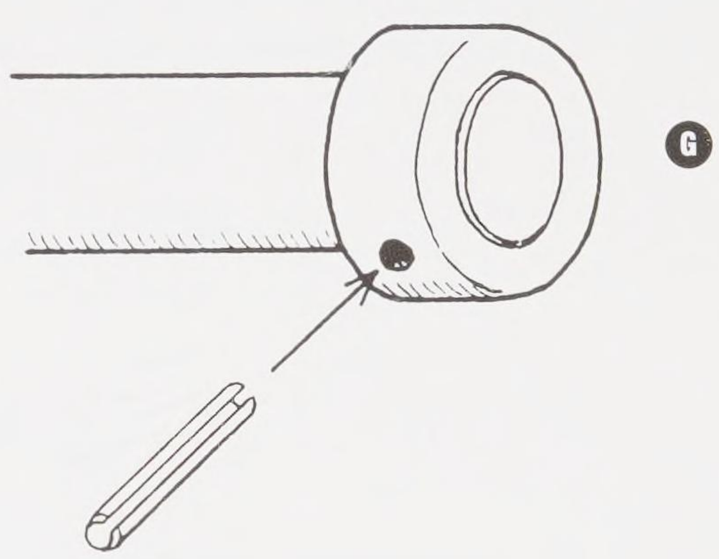
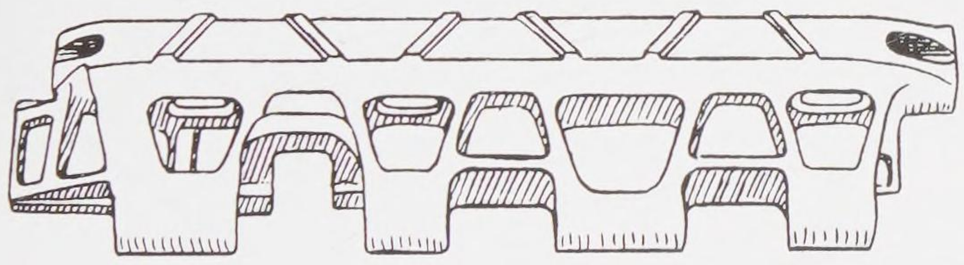
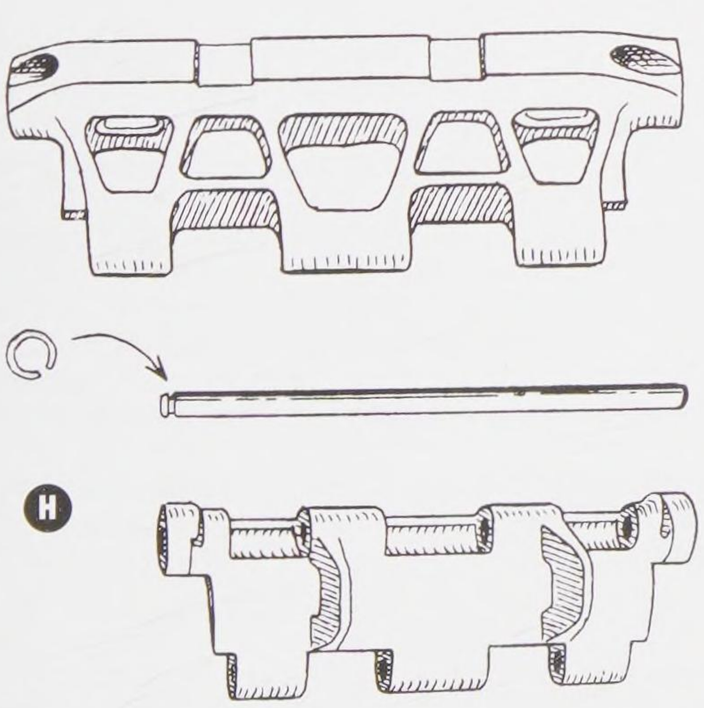


G

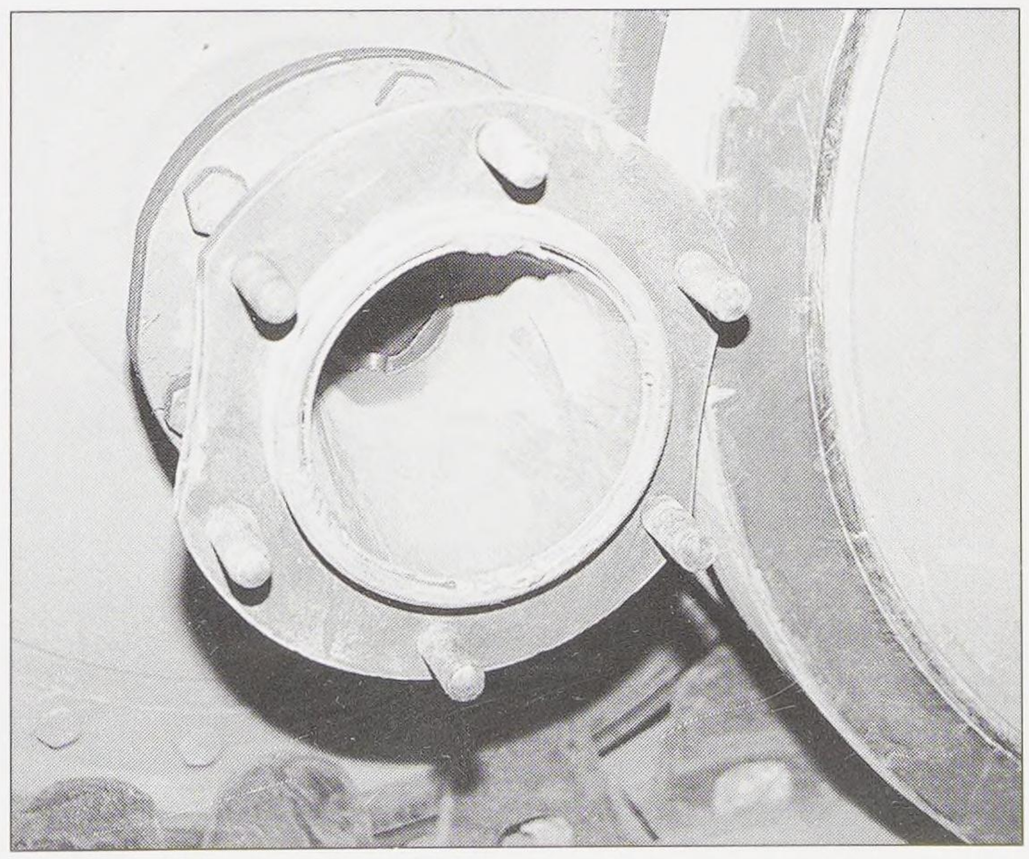


E



H

When the Tiger I transport tracks were installed for transport, it was also necessary to remove the outer set of rubber rimmed roadwheels. When they were removed, the hub and flange behind them was revealed and can be seen here on the Bovington Tiger. Note that this particular flange has been scalloped on both sides. This may have been done to reduce binding. After the introduction of the steel wheels, it was no longer necessary to remove roadwheels to install the transport tracks.



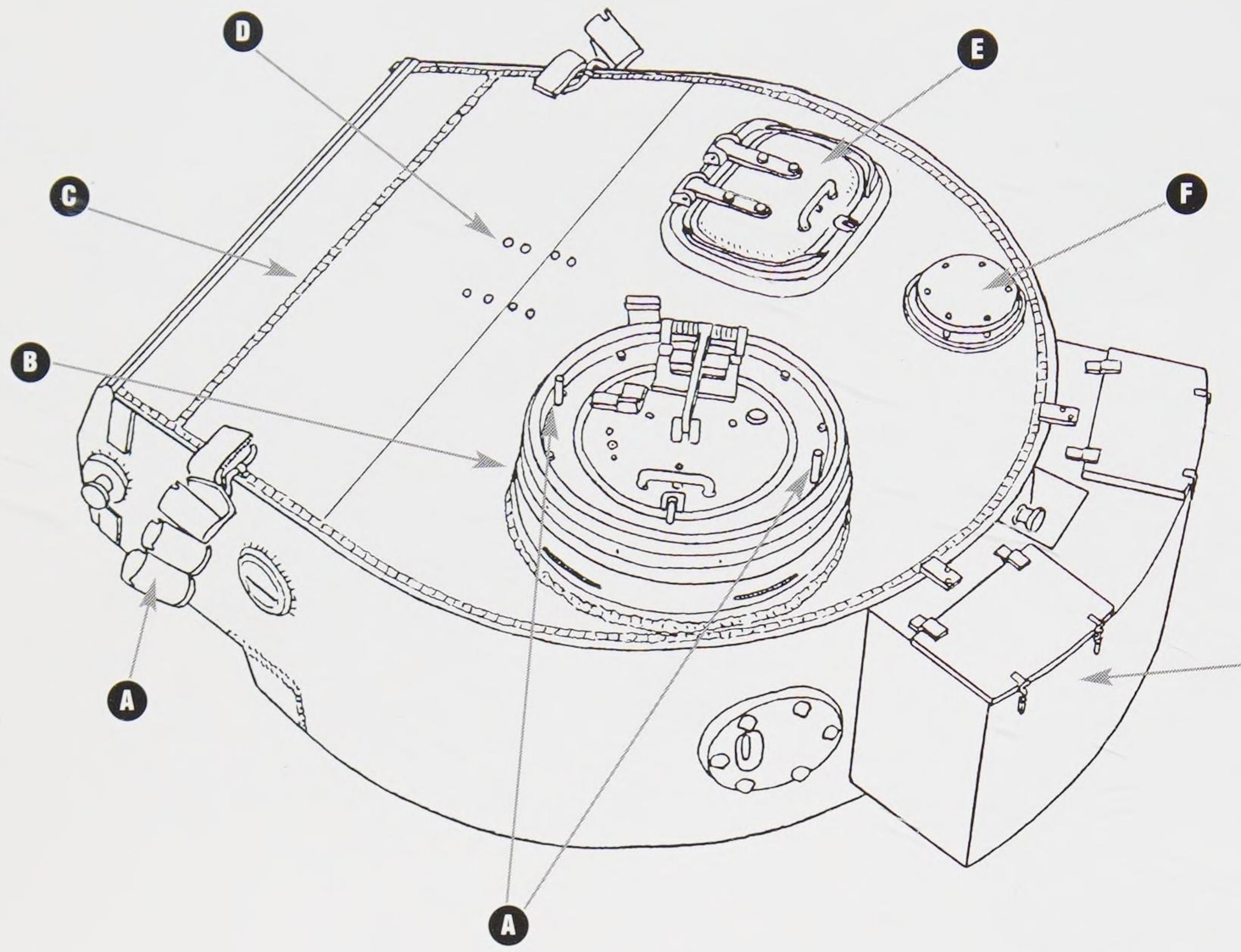


Fig. IJ-1 Initial version, August 1942 to January 1943

a) Smoke grenade launchers were now installed at the factory.
b) Early drum style cupola.
c) Welded roof section.
d) Bolts for internal travel lock
e) Initial style loader's hatch.
f) Early style ventilator.
g) Factory installed stowage bin introduced in late January.
h) A rain shield was added to the cupola to cover the commander and two rods were welded to the top ring of the cupola to support it.

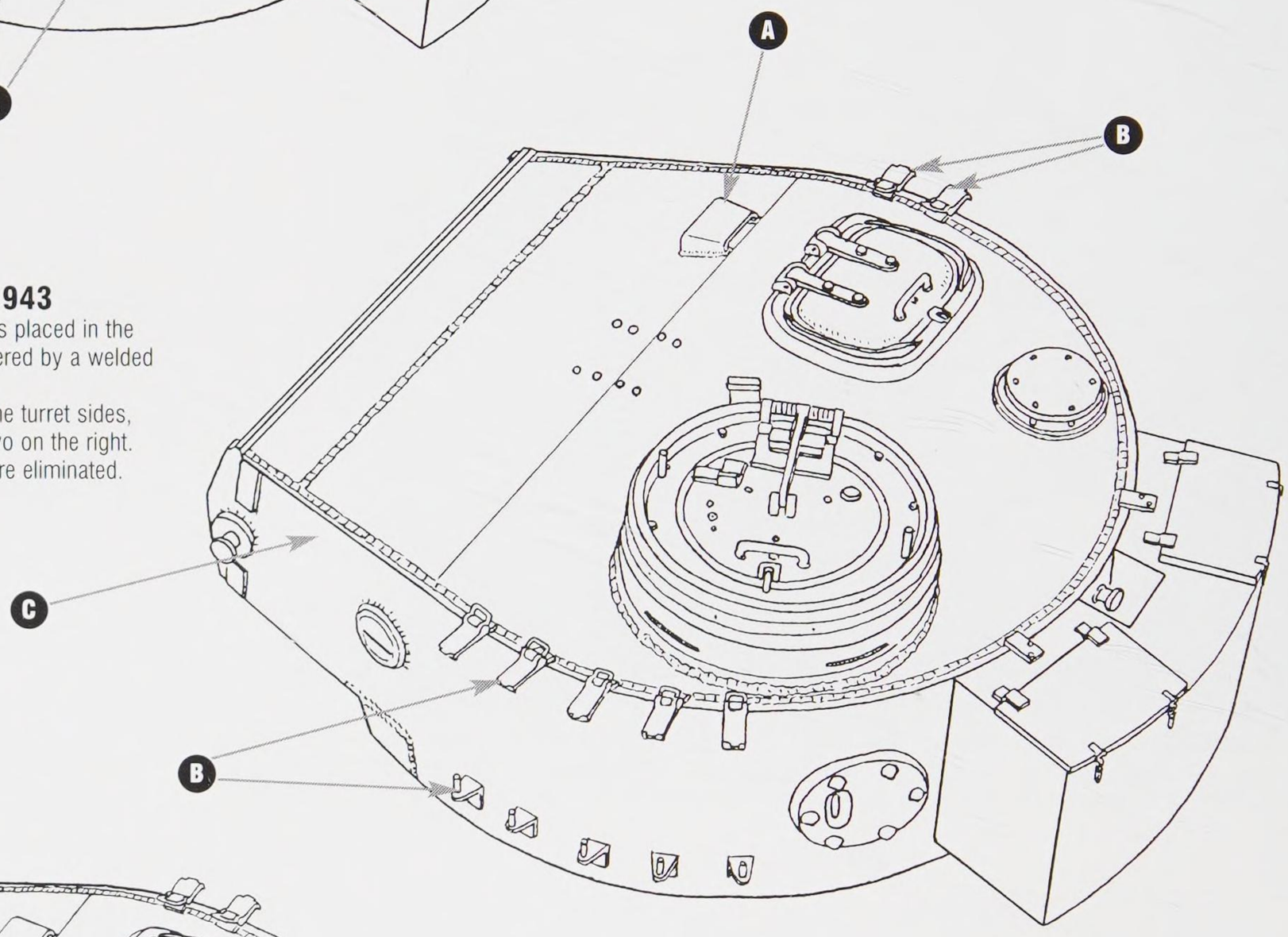


Fig. IJ-2 Second version, May 1943

a) A single fixed periscope for the loader was placed in the turret roof in front of the loader's hatch, covered by a welded armor shield.
b) Spare track link brackets were added to the turret sides, five on the left, and three, then very soon, two on the right.
c) The turret smoke grenade dischargers were eliminated.

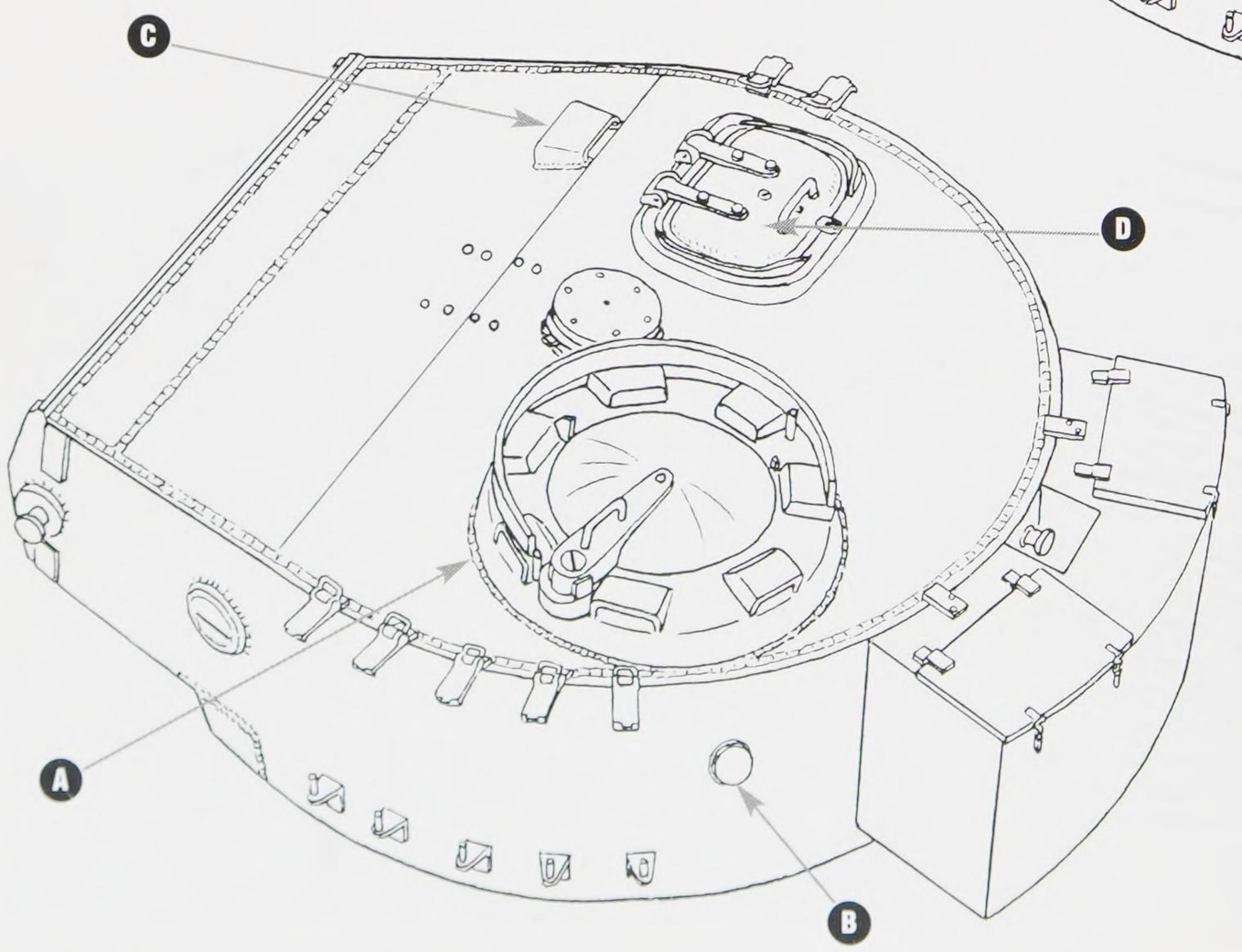


Fig. IJ-3 Third version, July 1943

In July 1943, a new turret was introduced and brought a number of design changes to the Tiger.
a) The commander's drum cupola was replaced by a new, cast cupola with seven periscopes, a lift-and-turn hatch, a ring on top to mount an anti-aircraft MG 34 and an internal azimuth indicator ring.
b) A smaller and simpler pistol port plug, retained by two chains, replaced the old port in the left turret side. The shorter chain retained the plug when it was opened. The longer chain was used to pull the plug closed.
c) The loader had a new, relocated periscope with a wider armor cover.
d) The loader's hatch lock was changed so it could be locked and unlocked from the outside.

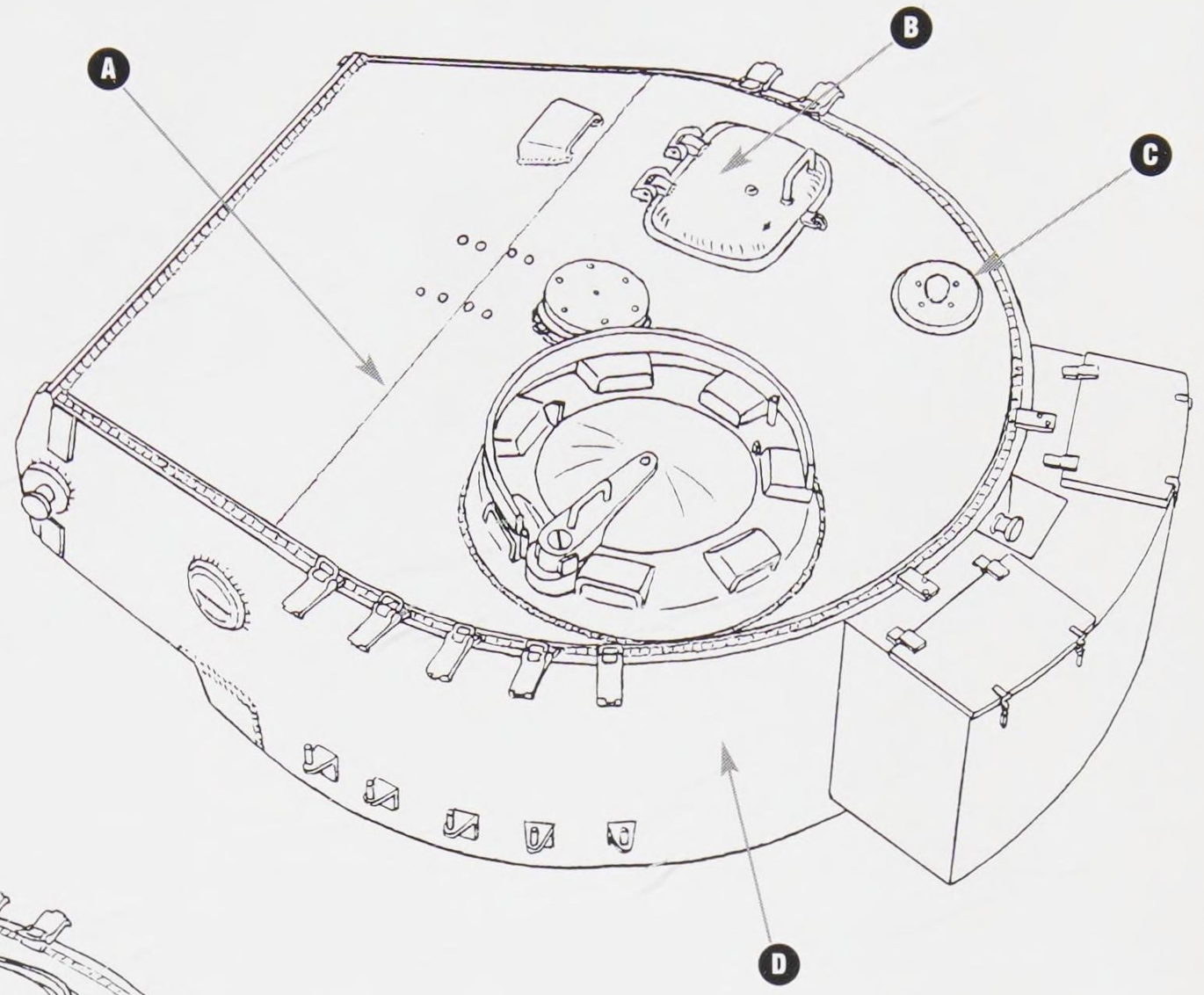


Fig. IJ-4 Fourth version, March 1944

a) The turret roof was increased in thickness to 40mm. The roof was made from one plate bent to shape and protruded slightly above the turret side plates.
b) A new hatch was added, the same 15mm thick hatch used on the Tiger II.
c) A "Nahverteidigungswaffe" (close-in defense weapon) was added to the rear area of the turret roof. The close-in defense weapon fired several types of shells: high explosive, smoke, orange signal smoke and signal flares.
d) Pistol port eliminated.

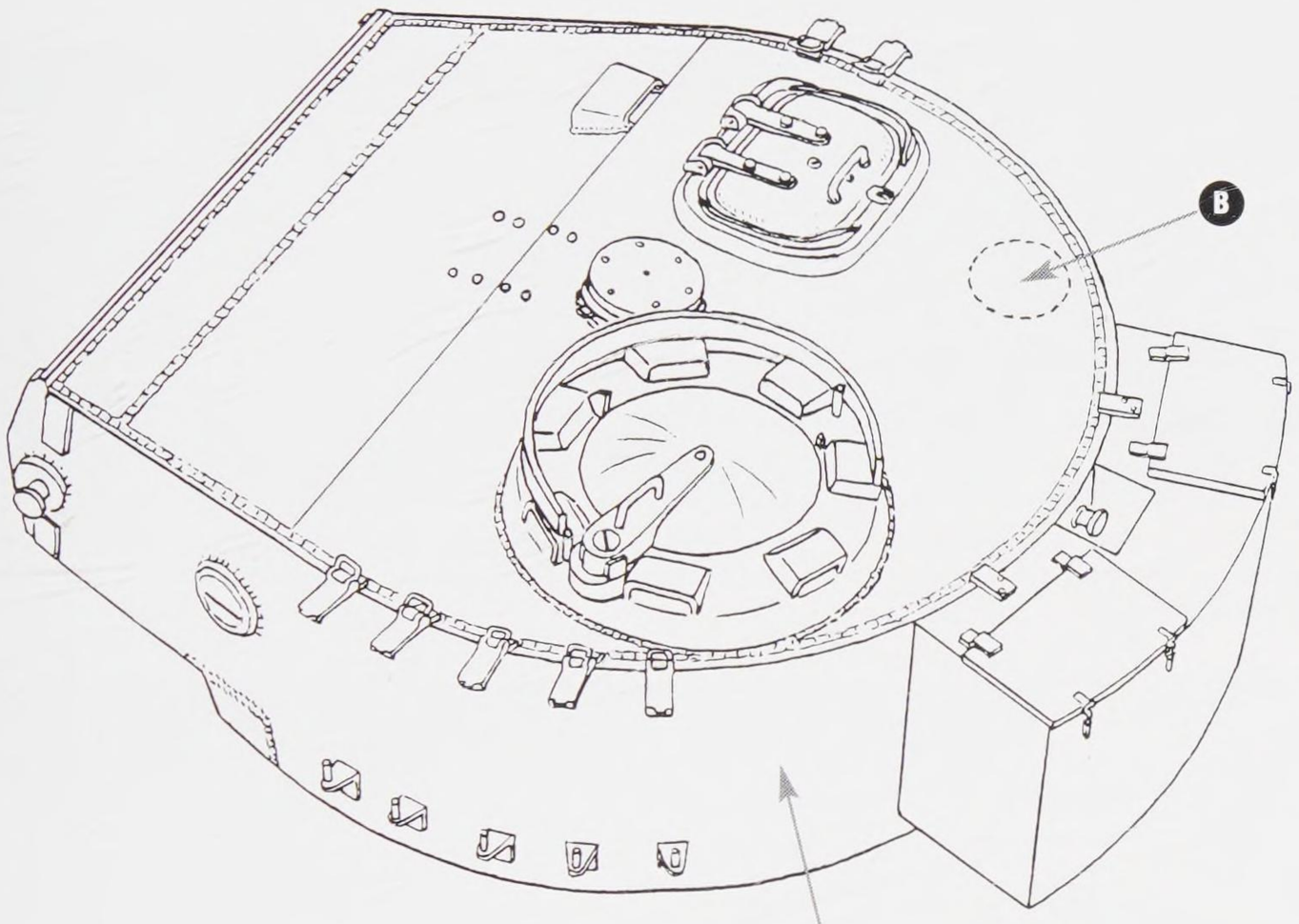


Fig. IJ-5 Interim version

This was similar to the fourth version, but with the original 25mm roof thickness and older loader's hatch.

a) No pistol port.
b) No close-in defense weapon installed.

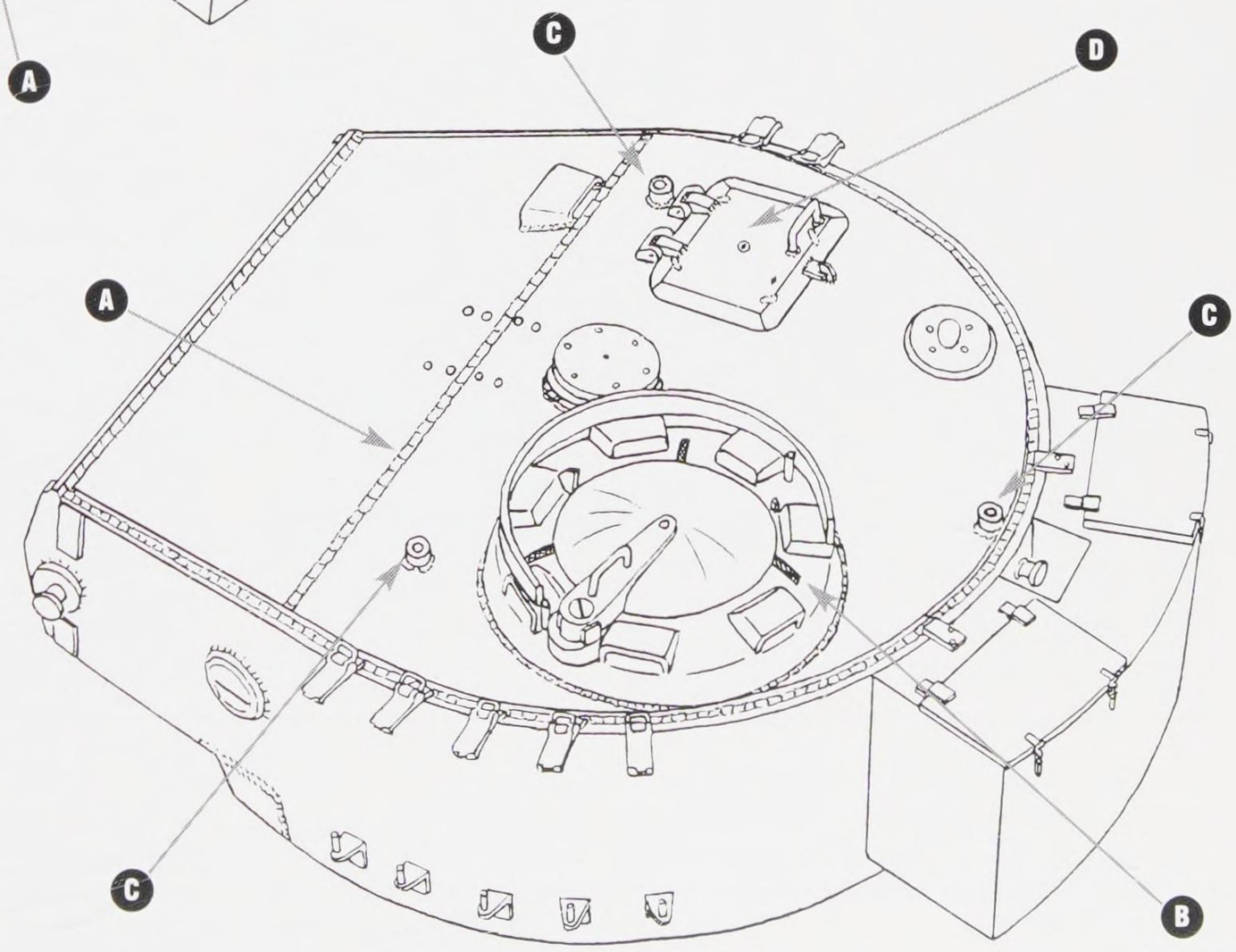
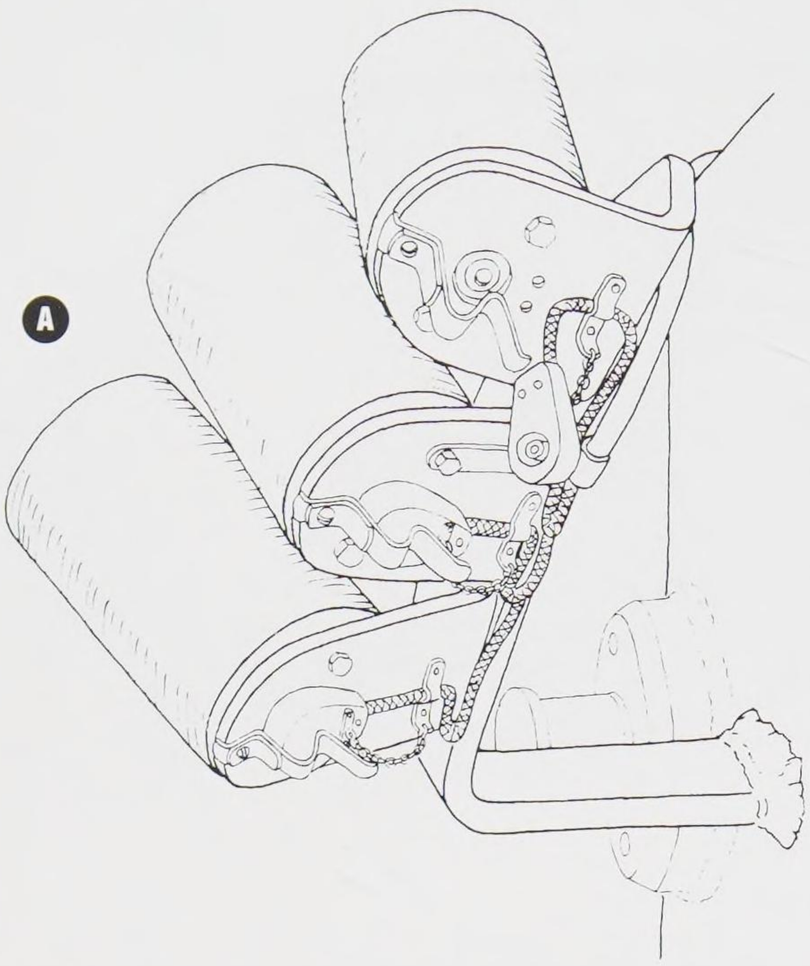
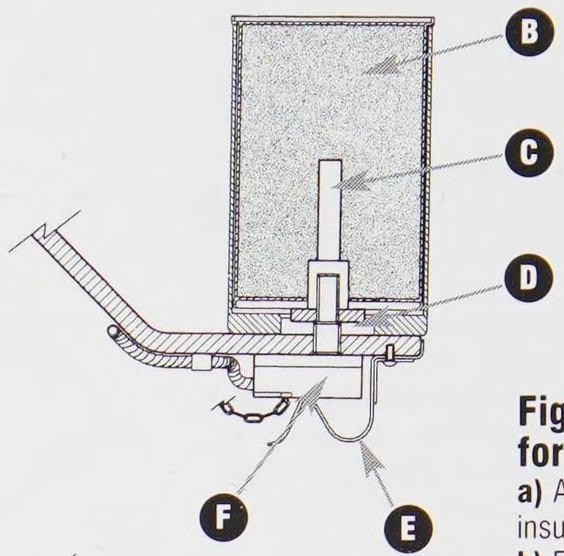


Fig. IJ-6 May 1944, final version

a) The 40mm thick turret roof was now made from two welded plates.
b) In June 1944, drain slits were cut into the commander's cast cupola to drain rainwater.
c) A new 2-ton jib boom crane was introduced, to be used to lift engines, transmissions, hatches and rear deck sections. To mount the crane, three "Pilze" (sockets) were welded to the turret roof. Field units were authorized to add the sockets as well, and to cut away the bottom of the turret escape hatch hinge to clear the new turret ring guard armor.
d) Final 40mm thick loader's hatch from Tiger ausf. B.
In July 1944, attachment points were added to the turret for poison gas detection panels. These were added to the recoil sleeve on the main gun barrel, the left side of the gun mantlet and the top of the turret rear stowage bin. It is likely very few turrets were so equipped.

Turret smoke discharger details





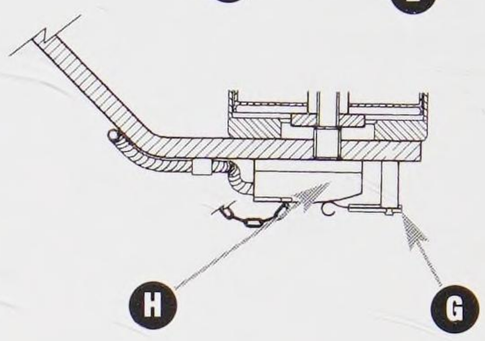
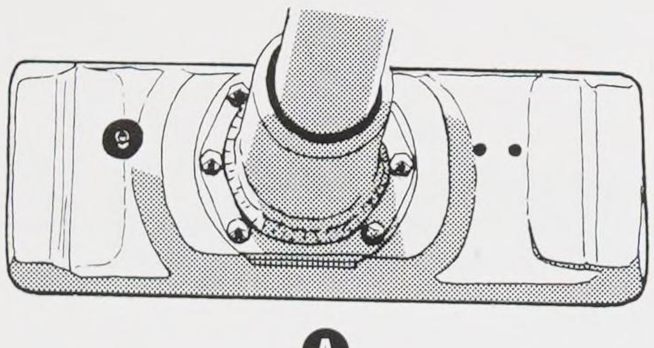
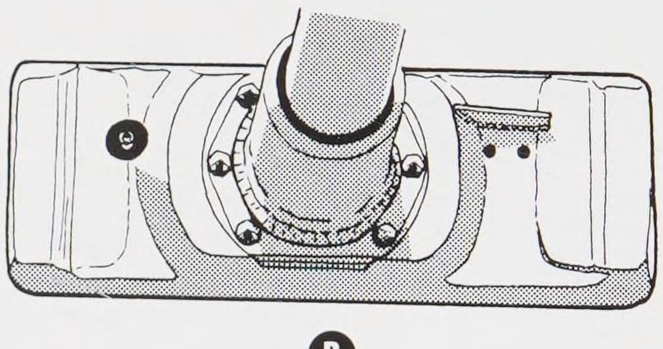


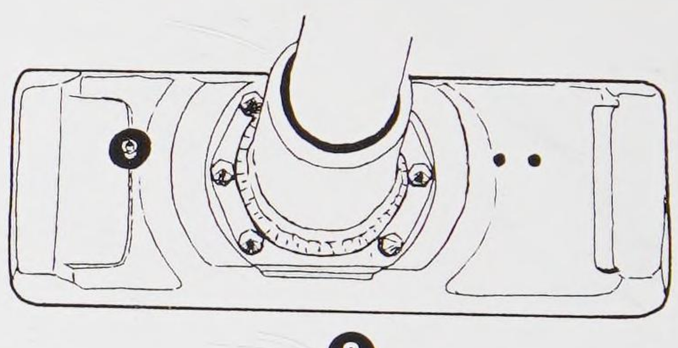
Fig. IJ-7 Smoke dischargers for the Tiger I

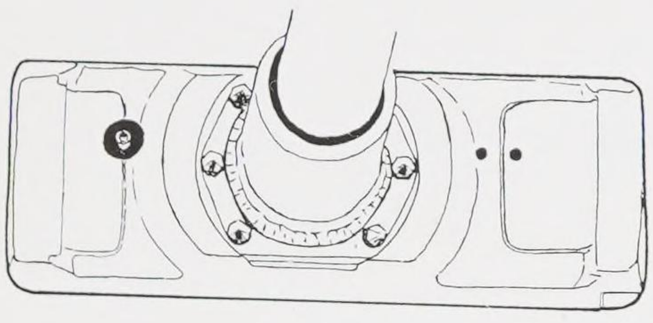
a) As installed on the turret. Note the top insulator removed from its clip.
b) Explosive chemical filler—smoke.
c) Initiator.
d) Primer.
e) Spring clip retainer.
f) Firing mechanism.
g) Alternate retainer design.
h) Firing mechanism, note retaining chain.
i) Schellnebelkerze (NbK-S-39) smoke grenade.

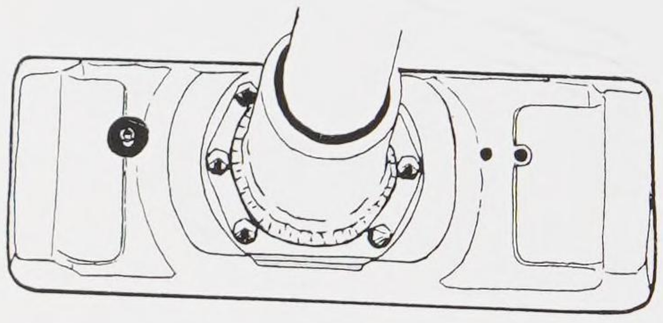
Fig. IJ-8 Mantlet manufacturing variations

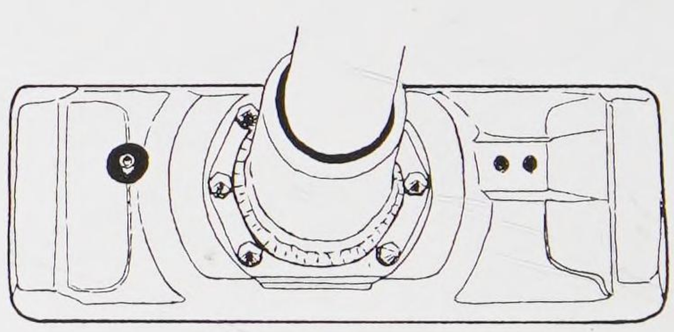


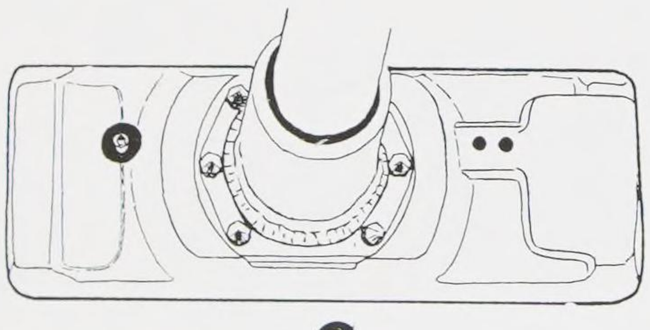


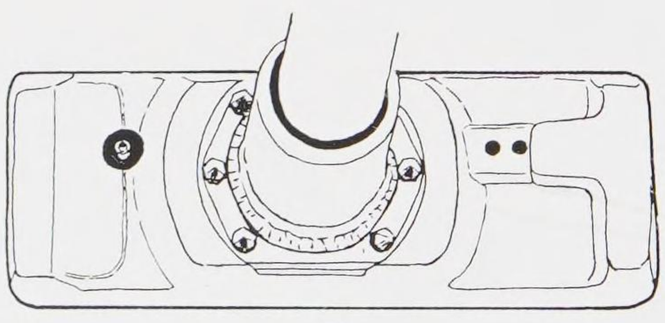


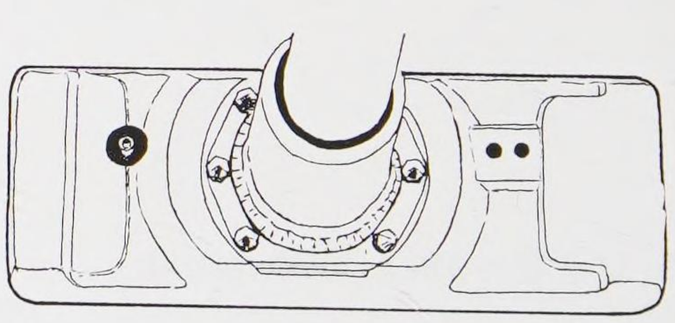


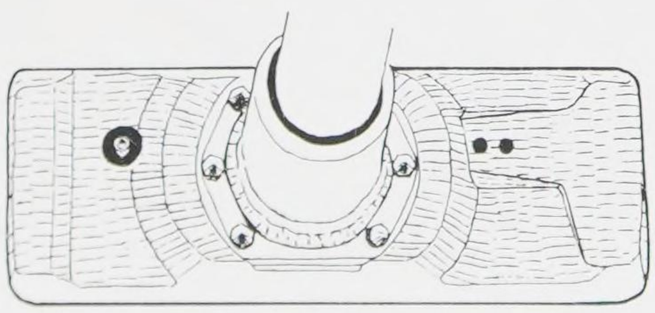


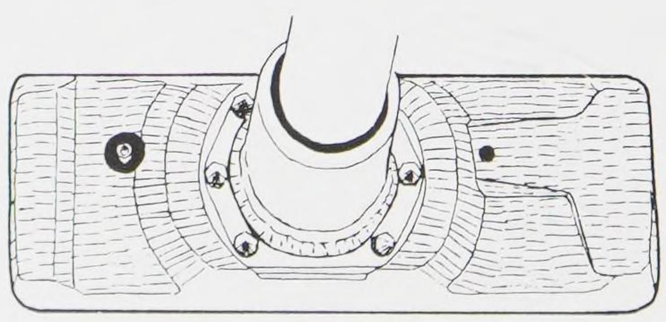


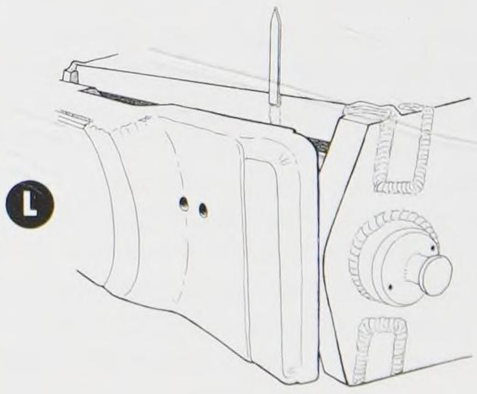










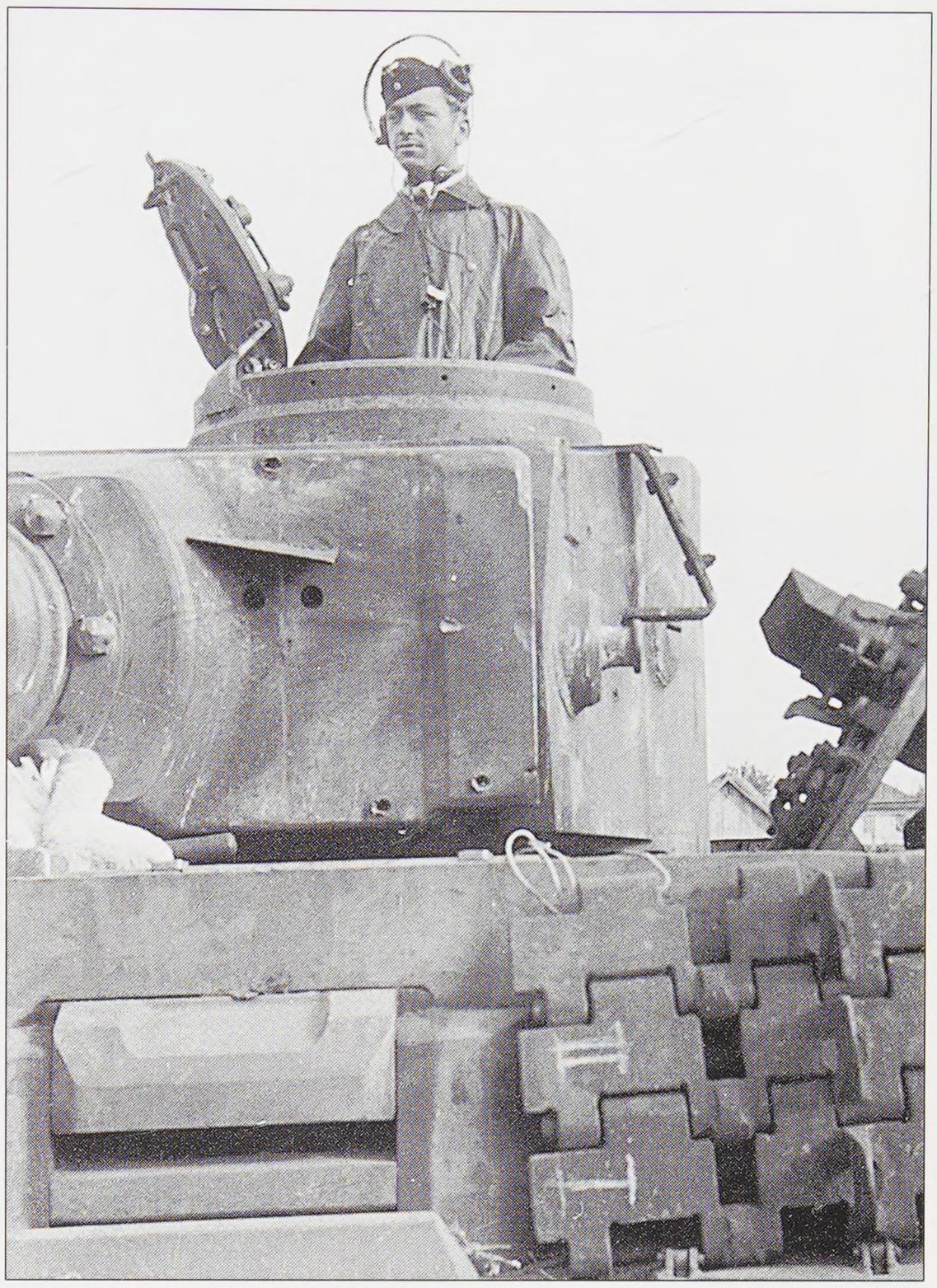


Some Tigers had reinforced gun mantlets with thicker armor around the holes for the gunner's binocular sight. There were several casting and machining variations during the transition to the thicker mantlet.
a) Earliest production.

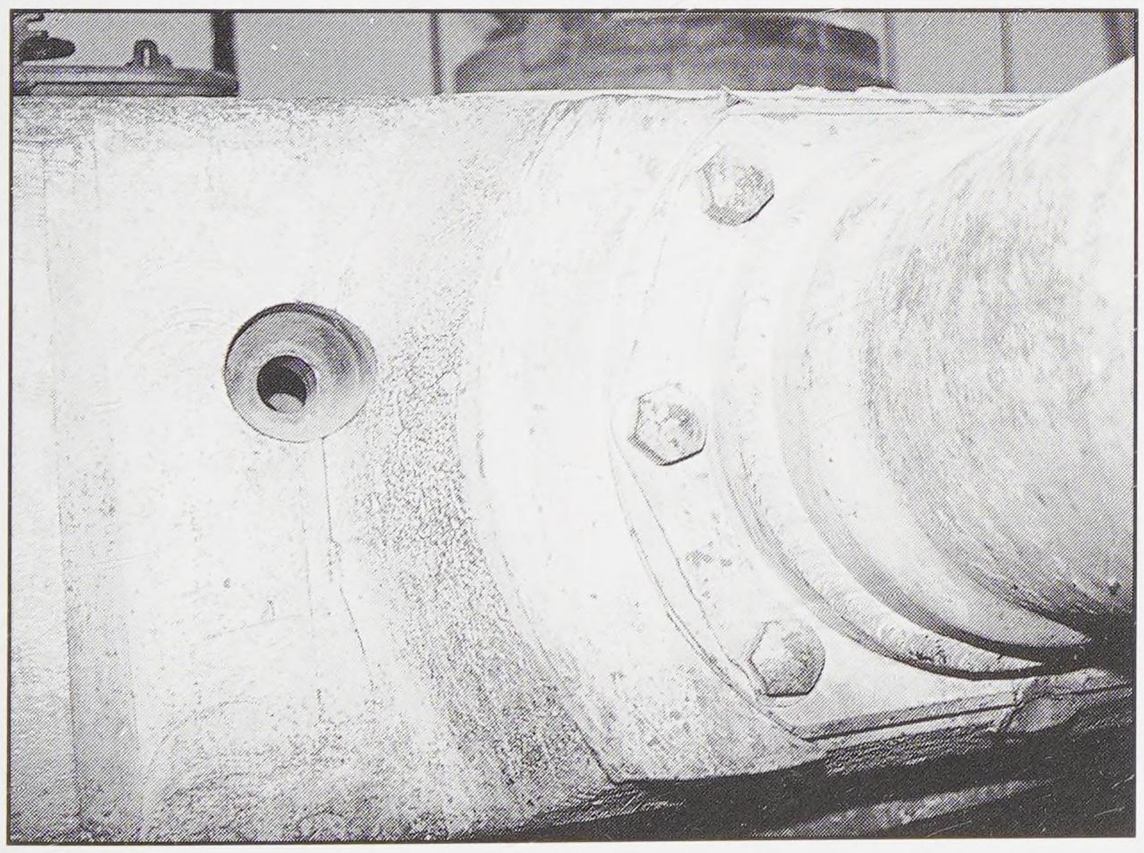
b) Sun shield unit modification.
c-e) Early style variations. Example "d" shows the Krupp design for the Porsche Tiger P, later used on the Tiger I.
f, g) Reinforced mantlets with binocular sights.
h, i) Manufacturing variations of the reinforced type.

j) Later production type with zimmerit coating.
k) Final version with the monocular gun sight.
l) This fixed vane commander's sight was seen fitted to a Tiger I used by the 2nd company of the s.Pz.Abt. 501 in North Africa.

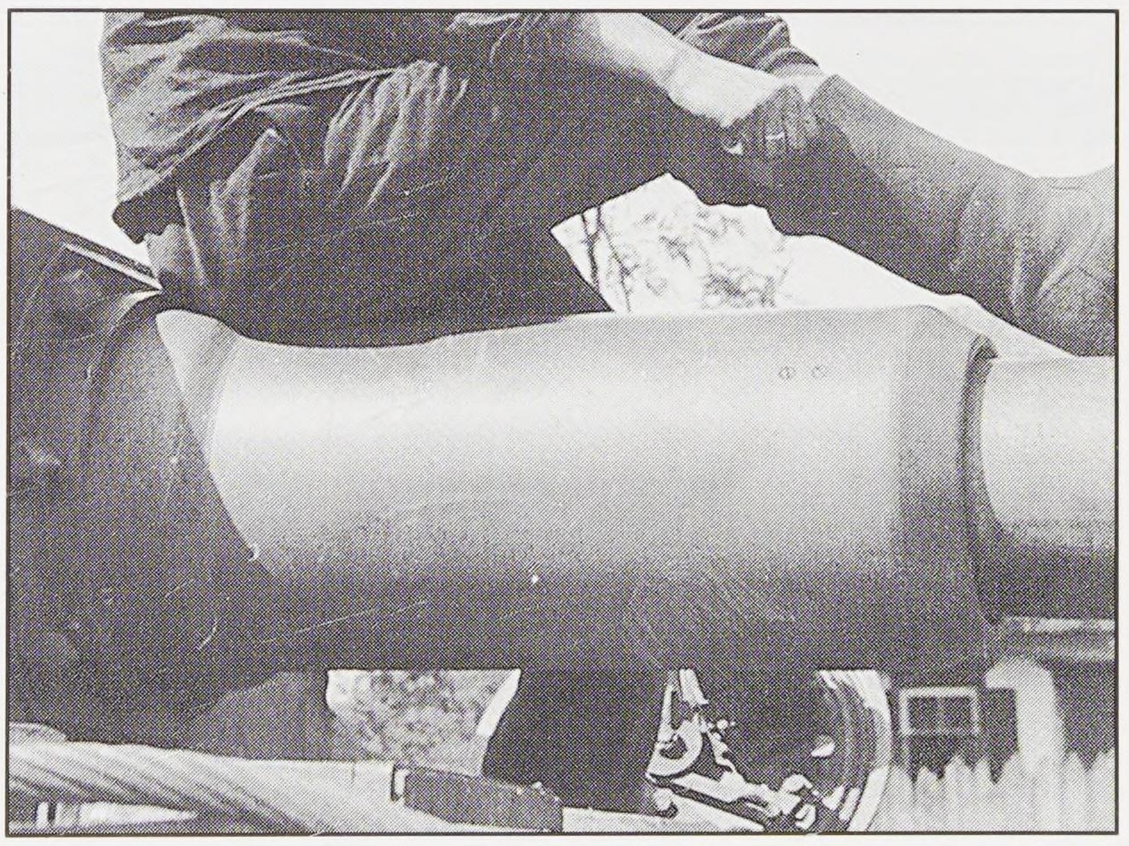
This early production Tiger I is being examined by Hungarian officers at a Wehrmacht field exhibition. One of the many mantlet styles can clearly be seen here. See example "e" on the opposite page. (BA)



A second variation on an early production Tiger I. This example illustrates a common unit field modification, a rain shield. This was typically fabricated with thin sheet steel stock. The shield also served to shield the gun sight from bright sunlight. (BA)



To accommodate the co-axial machine gun, a double hole was bored into the right side of the mantlet. The larger hole was to provide some measure of protection for the muzzle of the MG.



On each side of the barrel base sleeve there were two screws countersunk into the casting. They are in the same location on either side of the sleeve. This detail is missing on all existing model kits of the Tiger I. (BA)

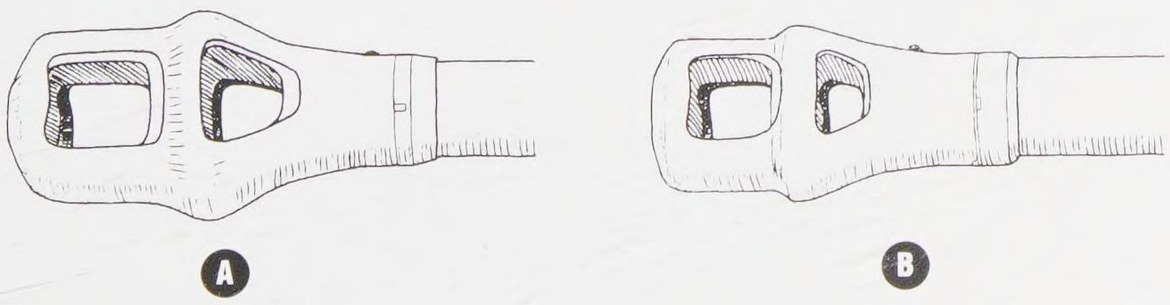


Fig. IJ-9
Some Tigers appeared in April mounting the smaller, lighter muzzle brake designed for the 8.8cm KwK 43 L/71 gun of the Tiger II.

a) Standard Tiger I muzzle brake.
b) Later, lightened brake, from the Tiger II. Used on some tanks produced after April, 1944.

Loader's hatches

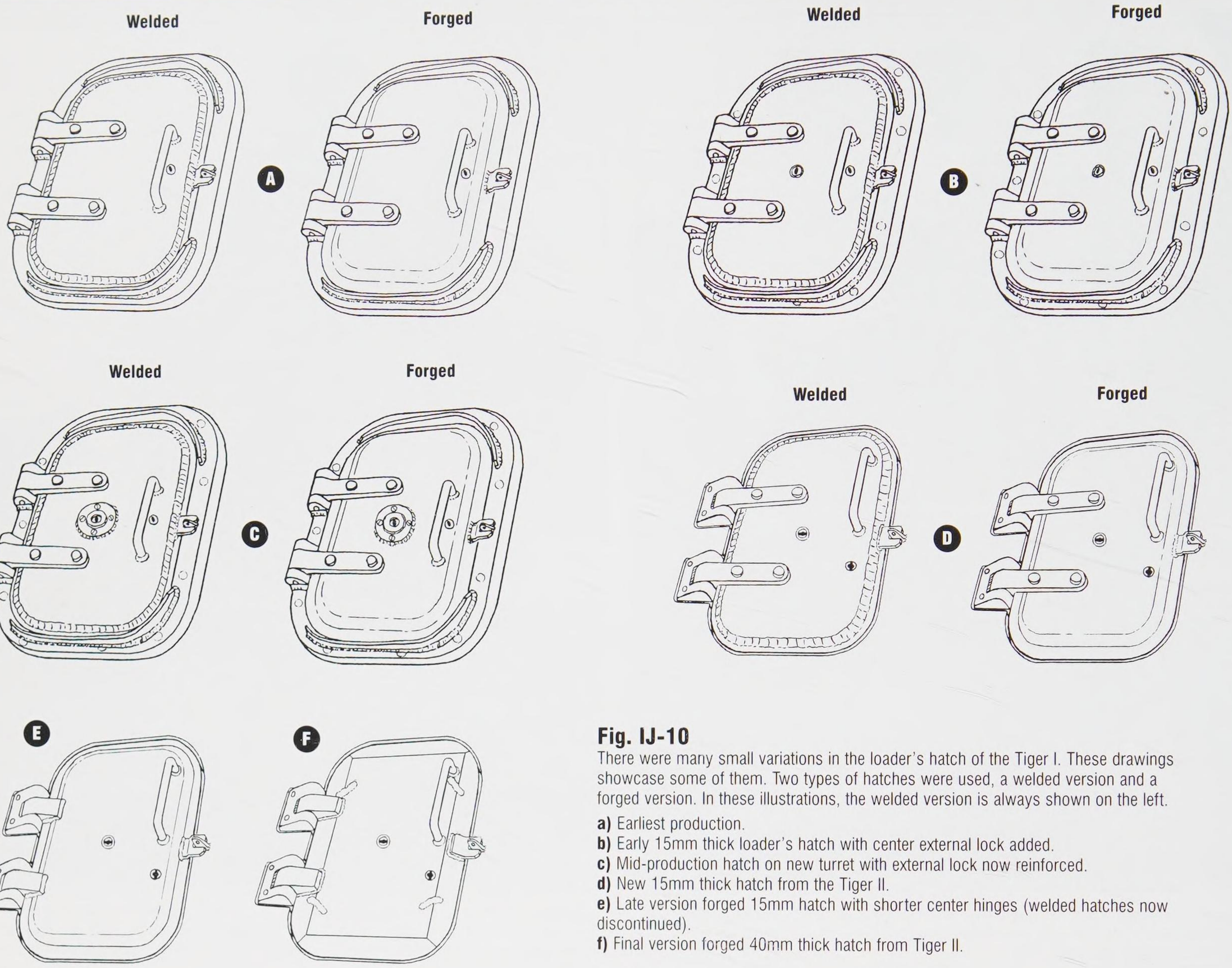


Fig. IJ-10
There were many small variations in the loader's hatch of the Tiger I. These drawings showcase some of them. Two types of hatches were used, a welded version and a forged version. In these illustrations, the welded version is always shown on the left.

a) Earliest production.
b) Early 15mm thick loader's hatch with center external lock added.
c) Mid-production hatch on new turret with external lock now reinforced.
d) New 15mm thick hatch from the Tiger II.
e) Late version forged 15mm hatch with shorter center hinges (welded hatches now discontinued).
f) Final version forged 40mm thick hatch from Tiger II.

Turret ventilator differences

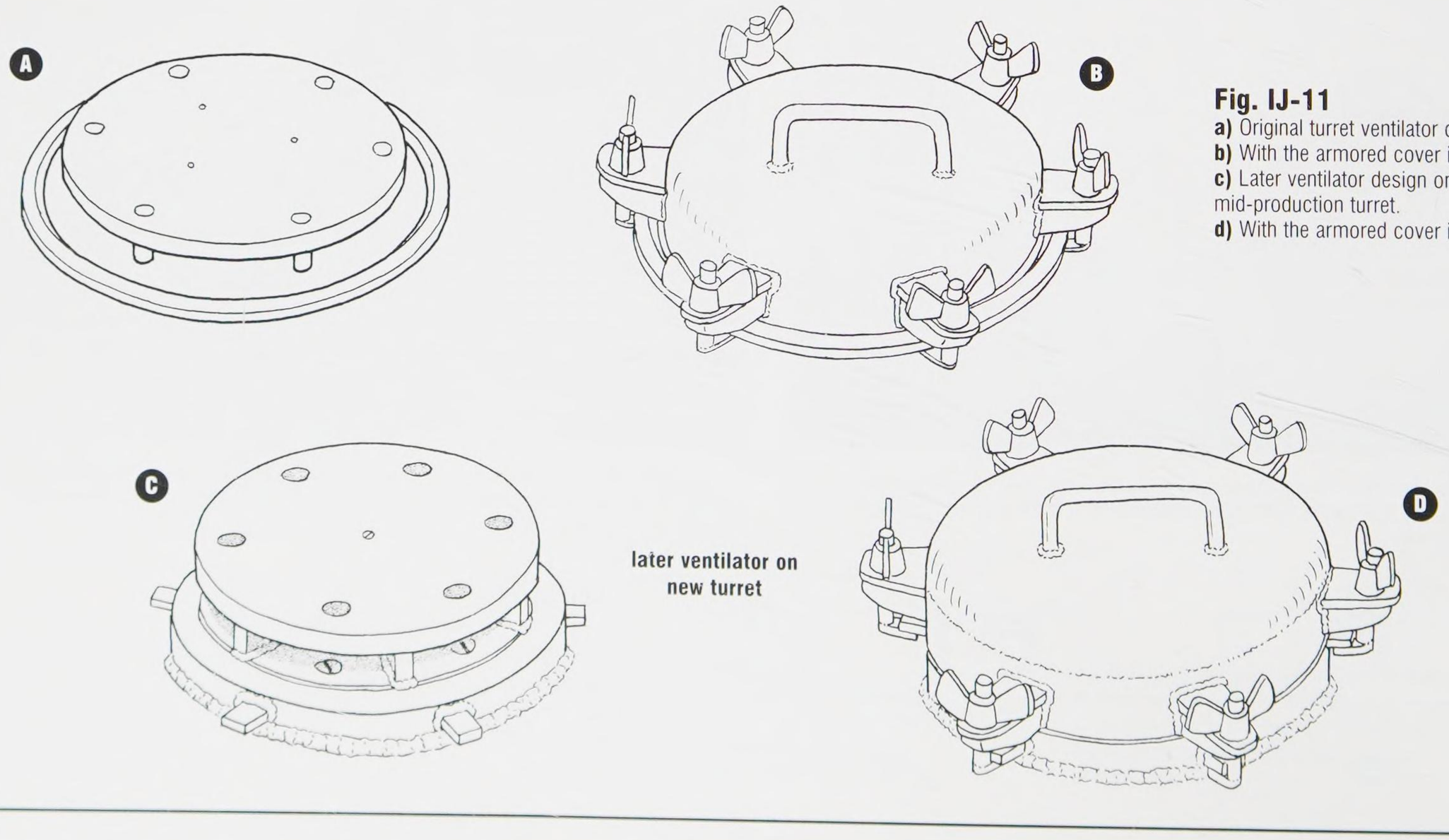
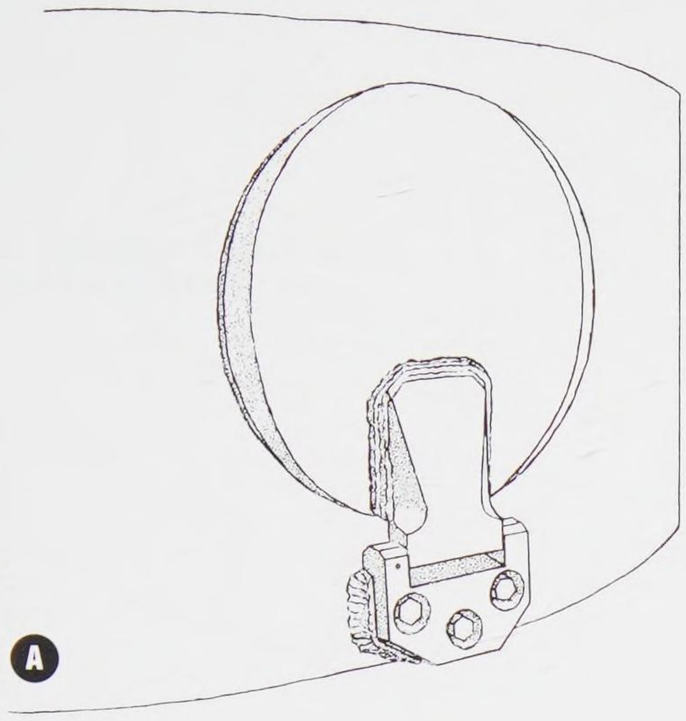
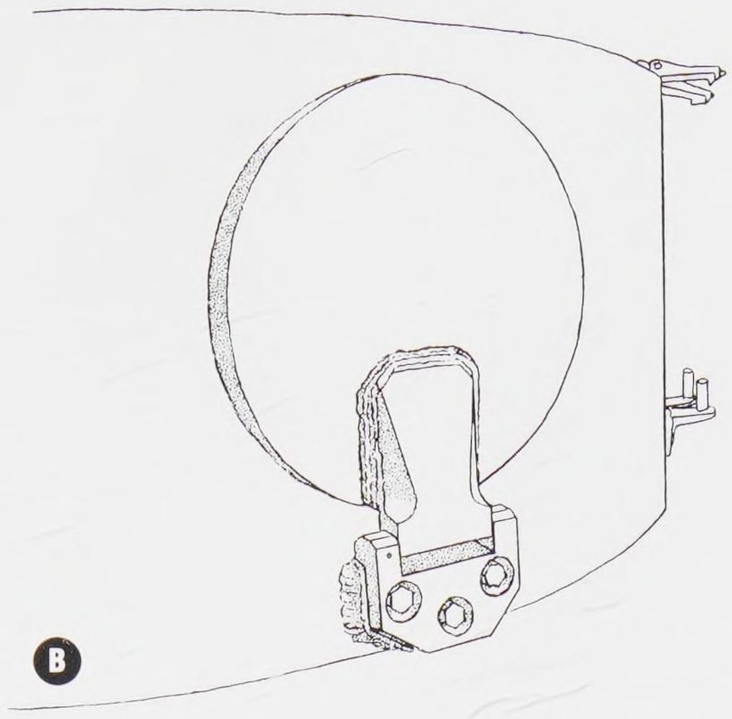
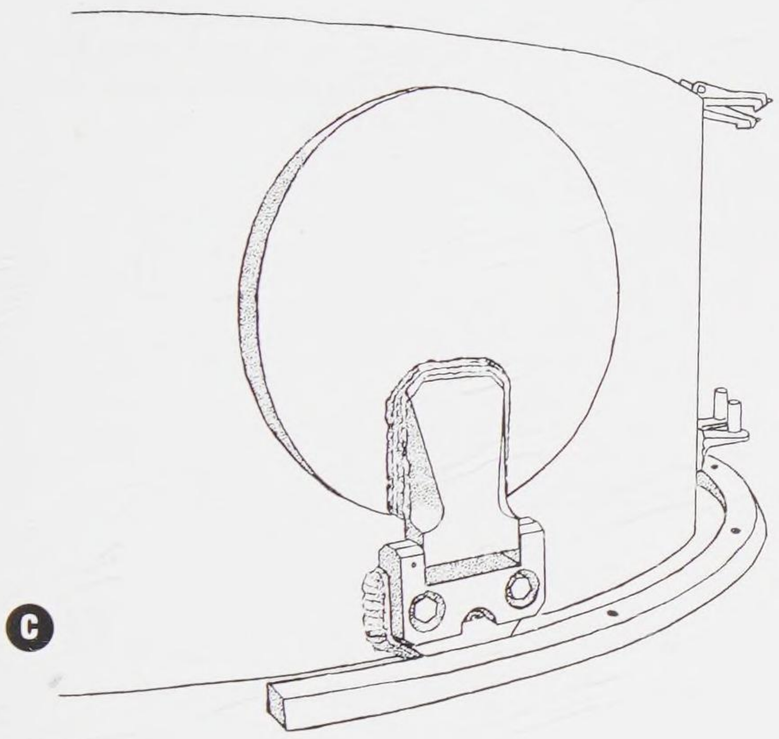


Fig. IJ-11
a) Original turret ventilator design.
b) With the armored cover installed.
c) Later ventilator design on new mid-production turret.
d) With the armored cover installed.

Escape hatch variations







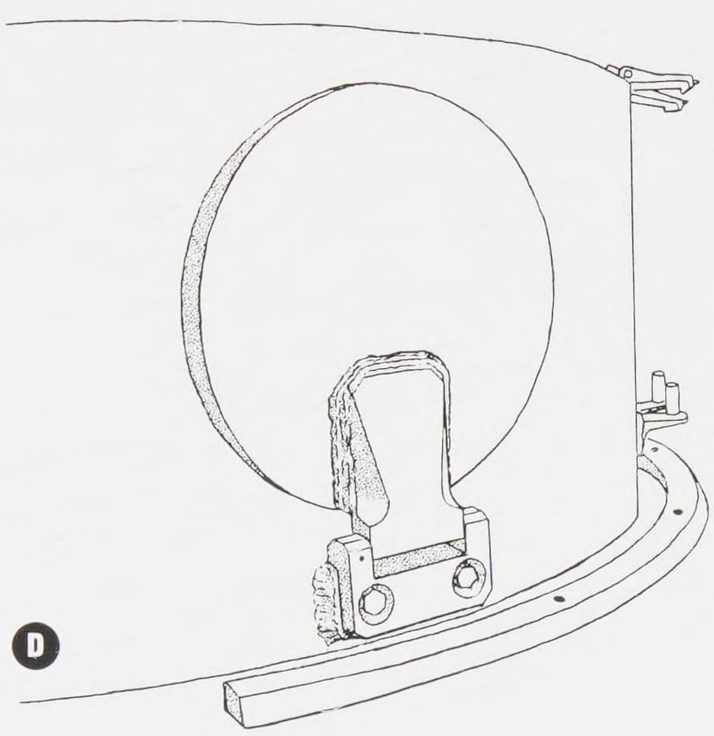
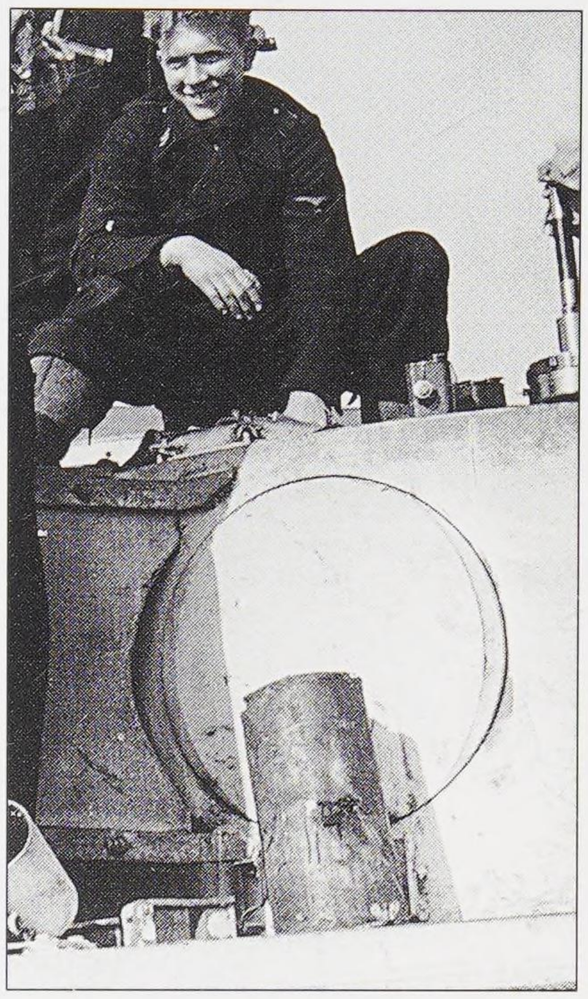


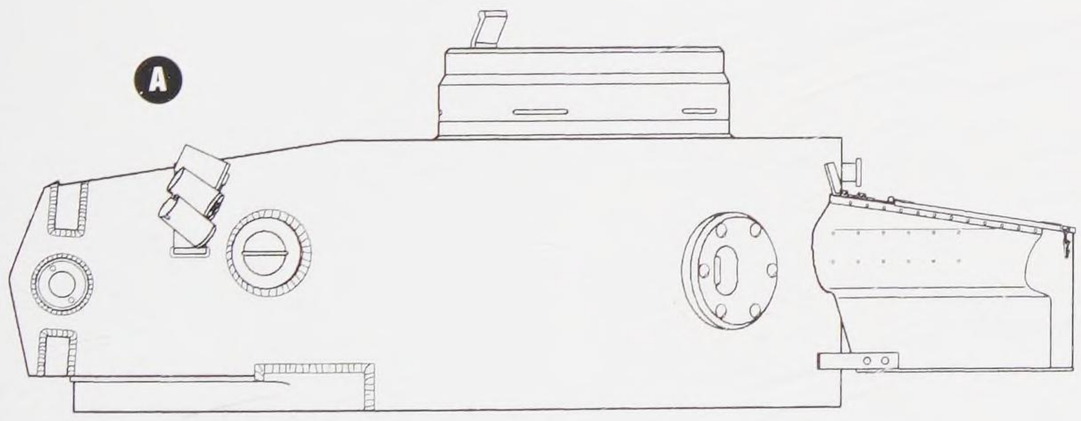
Fig. IJ-12

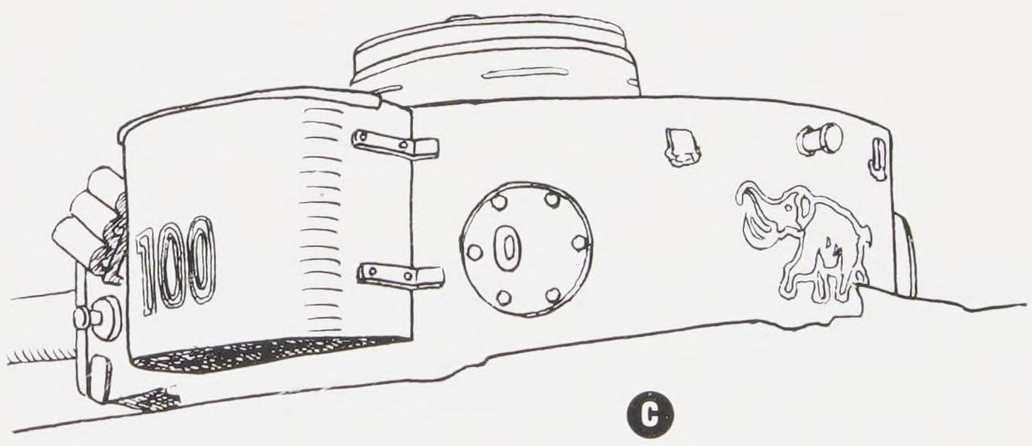
a) In December 1942, the turret right side pistol port was replaced with a large circular escape hatch hinged at the bottom. The sides of the hatch were beveled to conform to the turret.
b) In July 1943, the turret escape hatch was simplified and changed to a flat disc with no machined bevels.
c) A new turret ring guard on the hull deck was introduced in February 1944. Turrets produced before this date had the bottom hinge of the turret escape hatch cut back to clear the new ring.
d) Turrets produced after February 1944 had a shorter hinge casting with two bolts, instead of three.

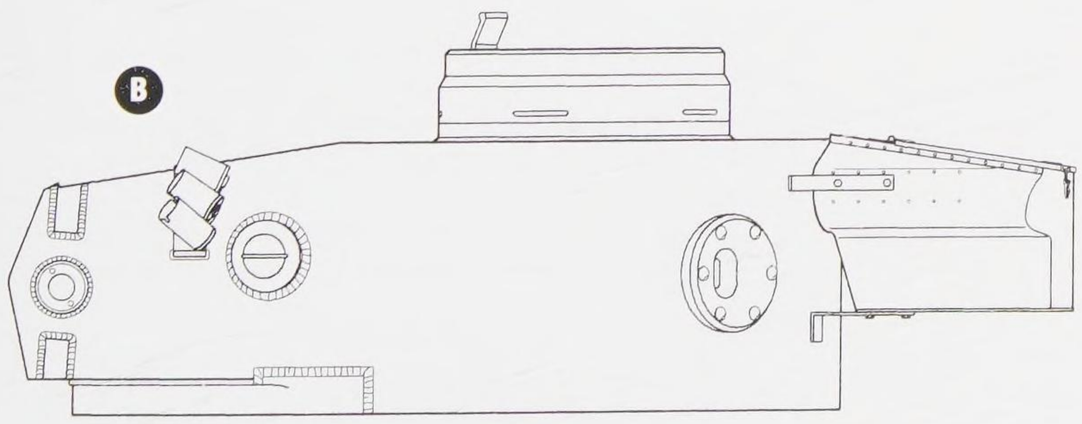


An excellent example of an early, beveled escape hatch. (BA)

Turret stowage bin progression



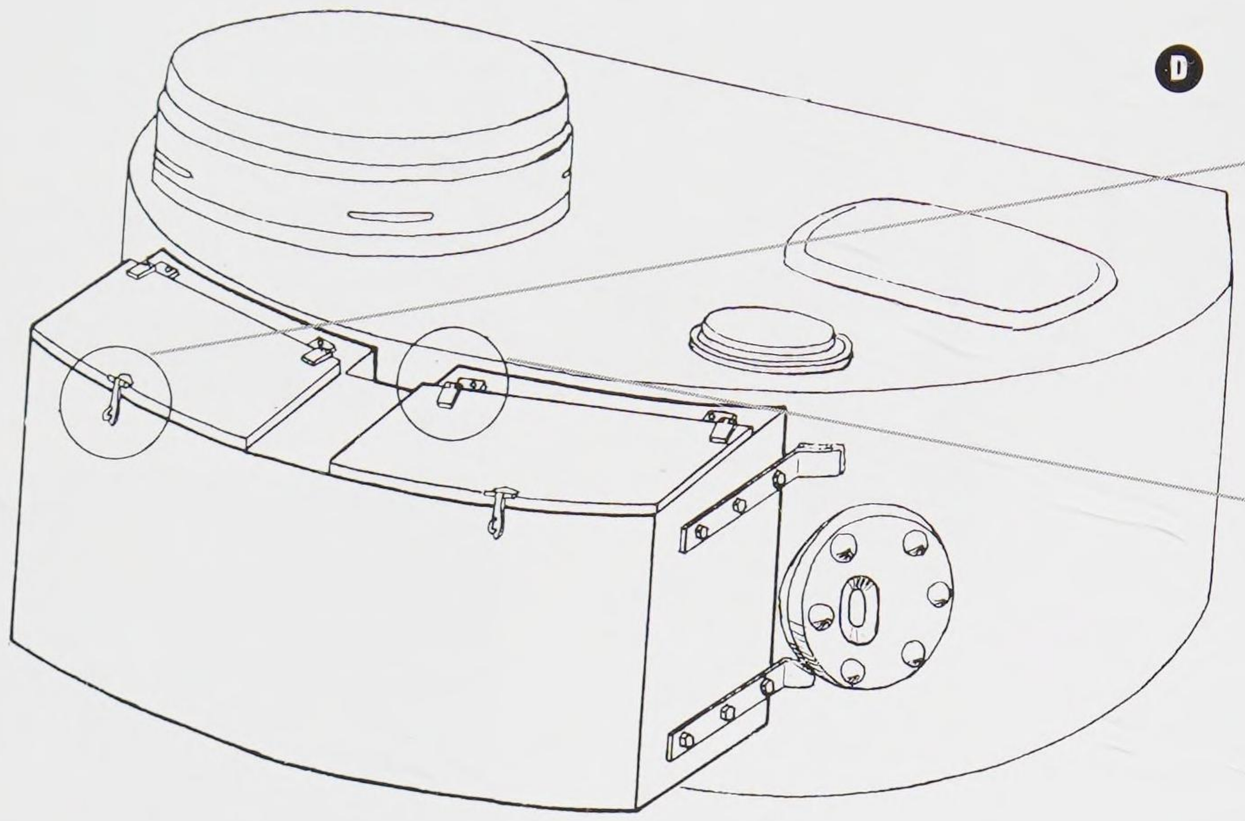




A factory installed turret stowage bin was not introduced until February of 1943. Until that date, several other solutions were found.

a) A few very early Tigers used a modified Pz.Kpfw. III turret rear stowage bin to hold equipment. It was installed below rear turret lifting bolt.
b) As a temporary solution, some very early Tigers had this specially modified bin attached at the factory.
c) This example of a side mounted early stowage box was seen on a Tiger I of the s.PzAbt. 502 (chassis 250009). Later captured by the Russians, the box may have been repositioned by them, as mounting lugs remain on the rear of the turret.

Turret stowage bin progression



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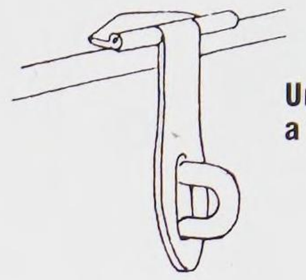
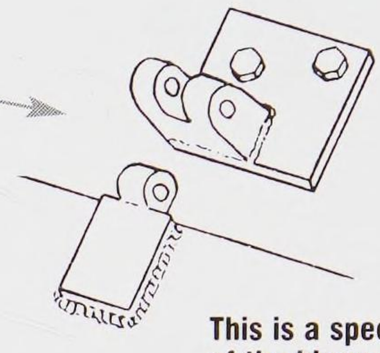
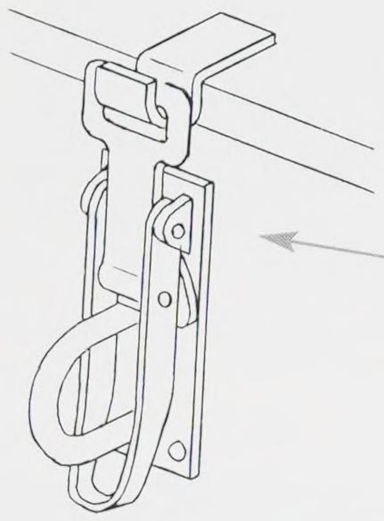


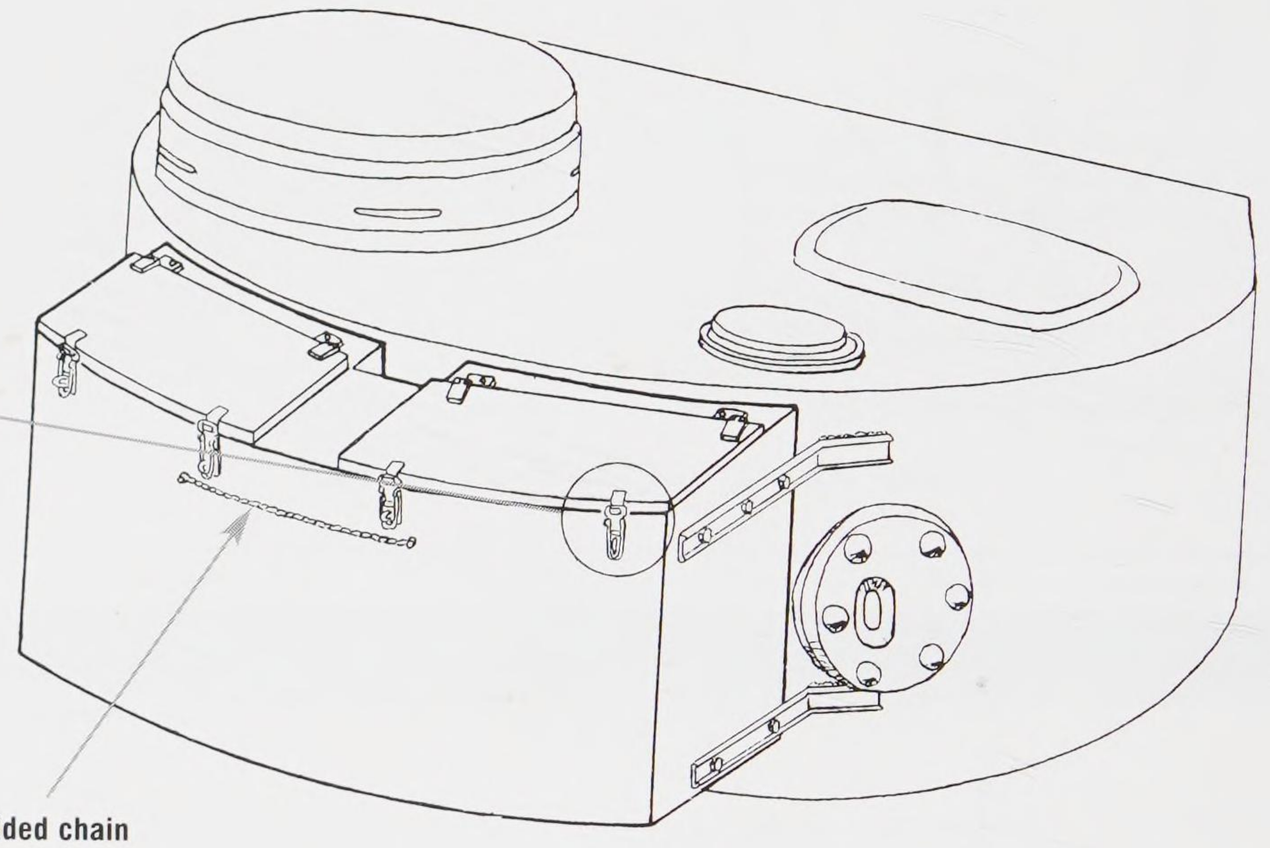
Unit made bins typically used a very simple type of latch.



This is a speculative rendering of the hinge on a unit made box. These hinges varied greatly from tank to tank.

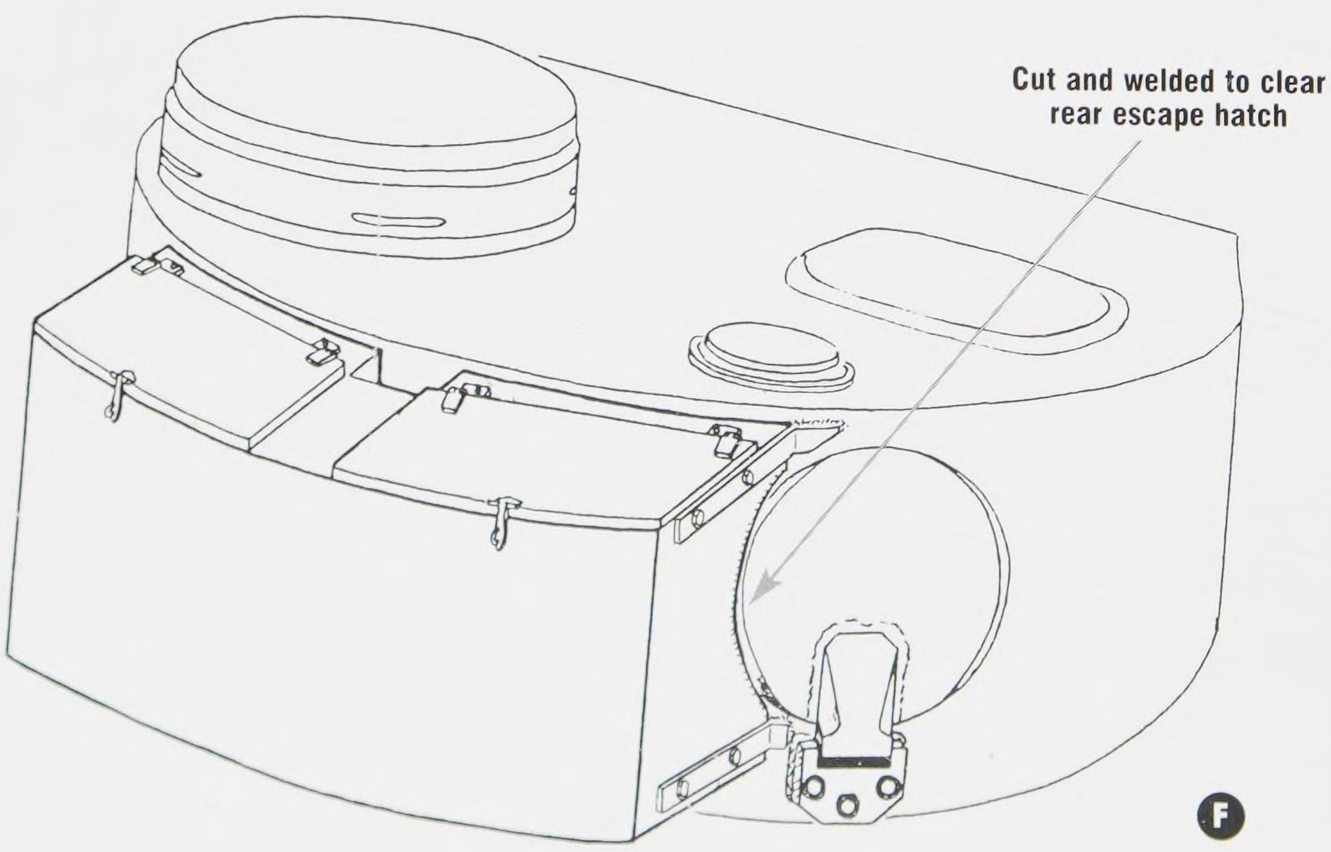


Many bins used this standard latch mechanism. This was also the same type used on the production stowage bin.



Welded chain

E



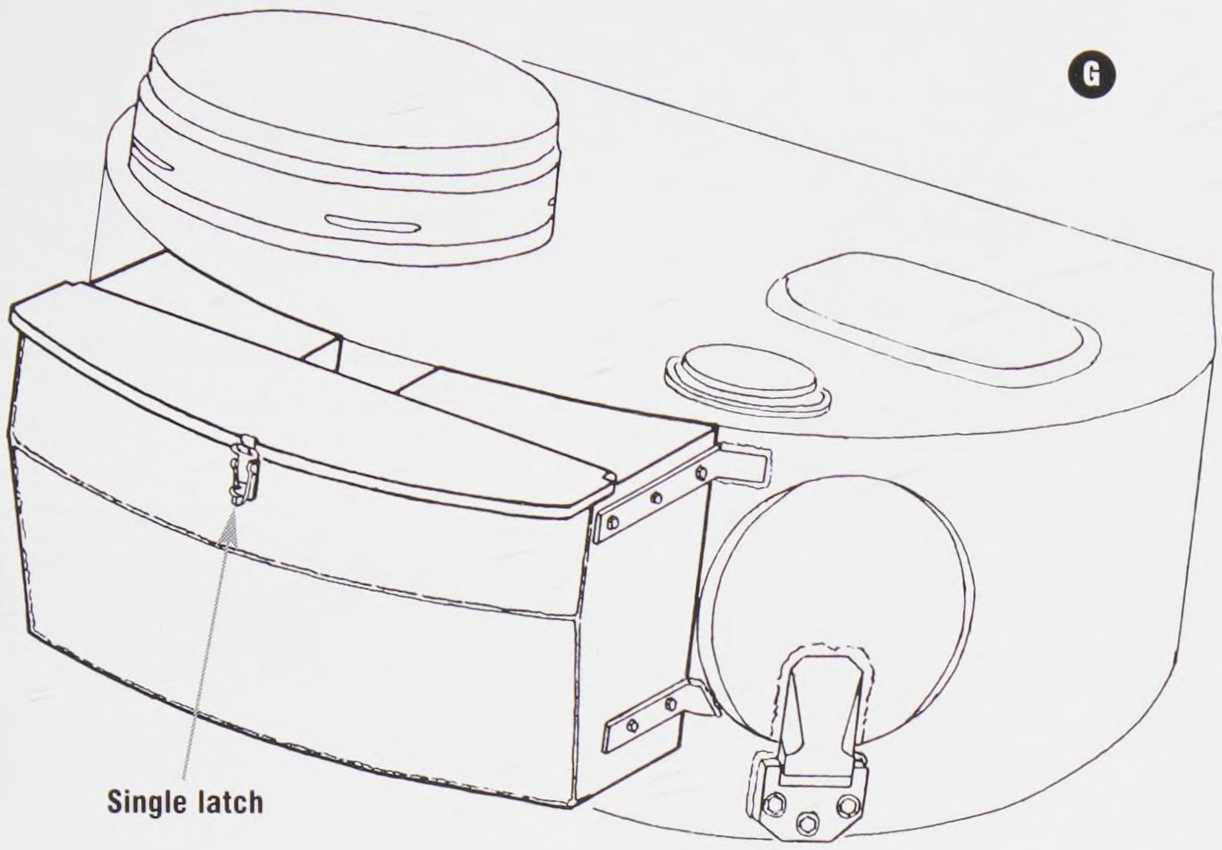
Cut and welded to clear rear escape hatch

F

d) This example is seen on several early Tigers and is similar to the factory-produced version.
e) This version is similar, but uses four standard latches for the doors. It also mounts a length of chain, tack welded to stow helmets or water bottles.
f) This example is wider and contains a cutout for the side escape hatch.
g) This version, produced by the workshop company of the s.Pz.Abt. 503, is well documented. It uses a single latch for its large lid.
h) The factory installed production design turret stowage bin.
i) This shows the mounting hardware for the production bin.

Turret stowage bin progression

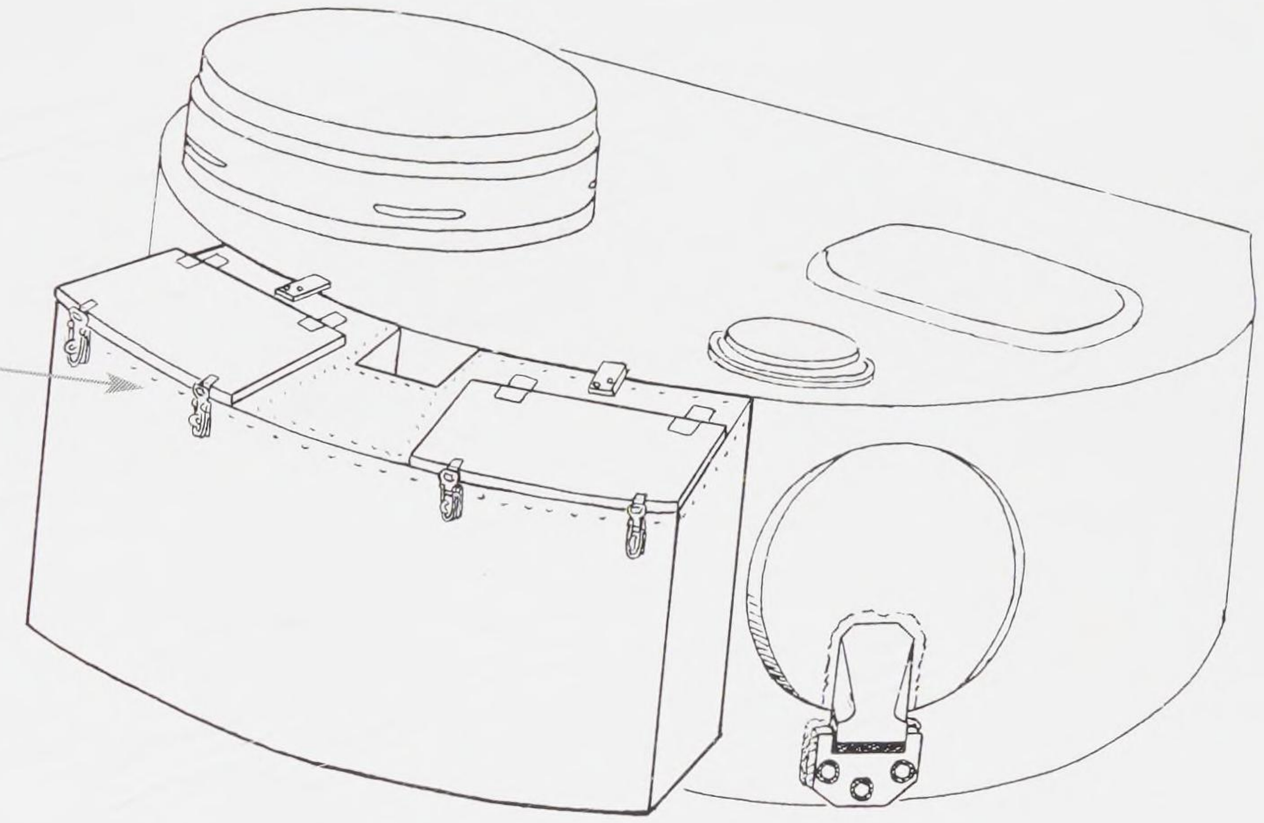
G



Single latch

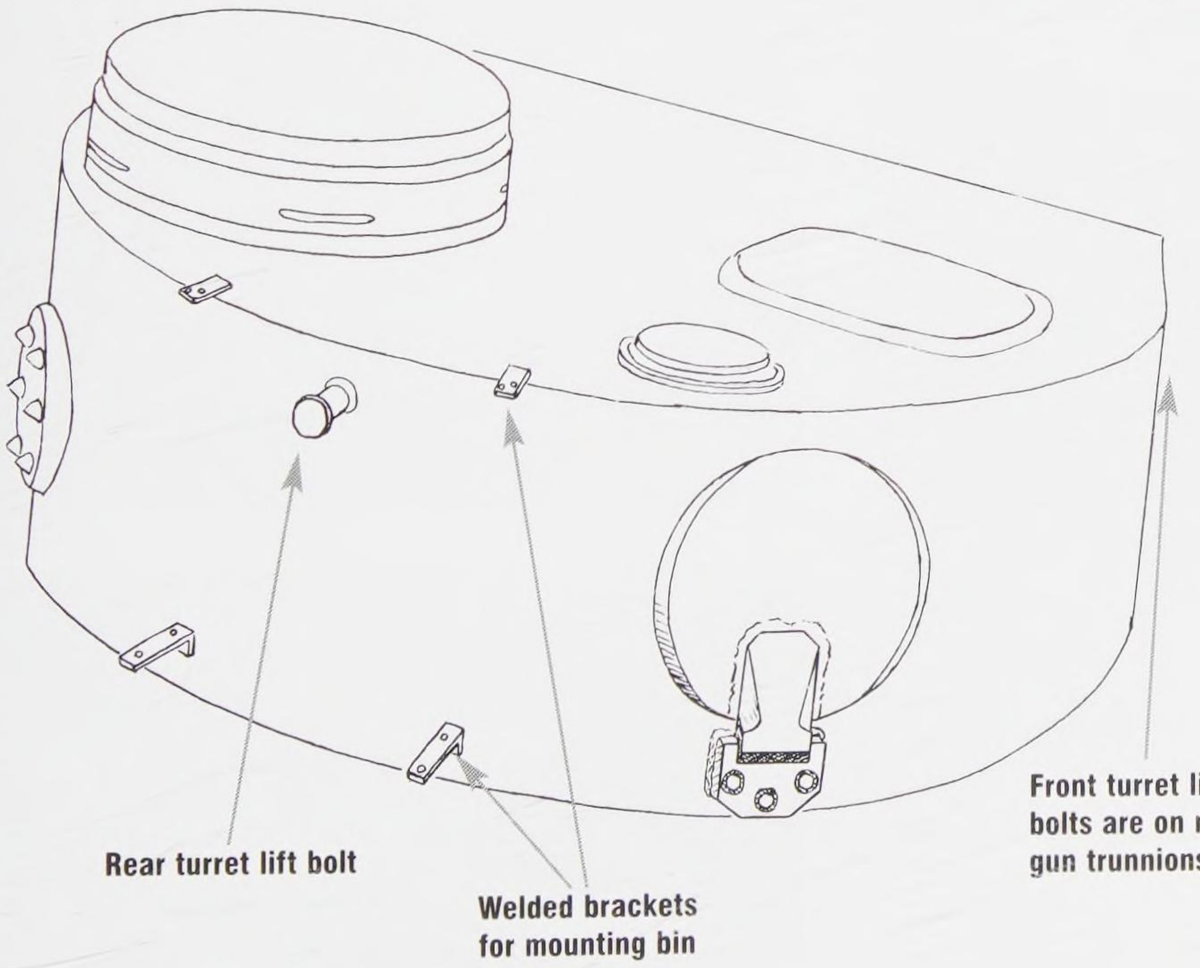
The unique stowage bin used on Tigers of the s.PzAbt 503 is shown here, along with another unique addition. A basket has been fabricated from deck screening and welded to the left side of the stowage bin. It contains track pins and a sprocket bolt wrench. (BA)

H



Production stowage bin featured a partially riveted construction

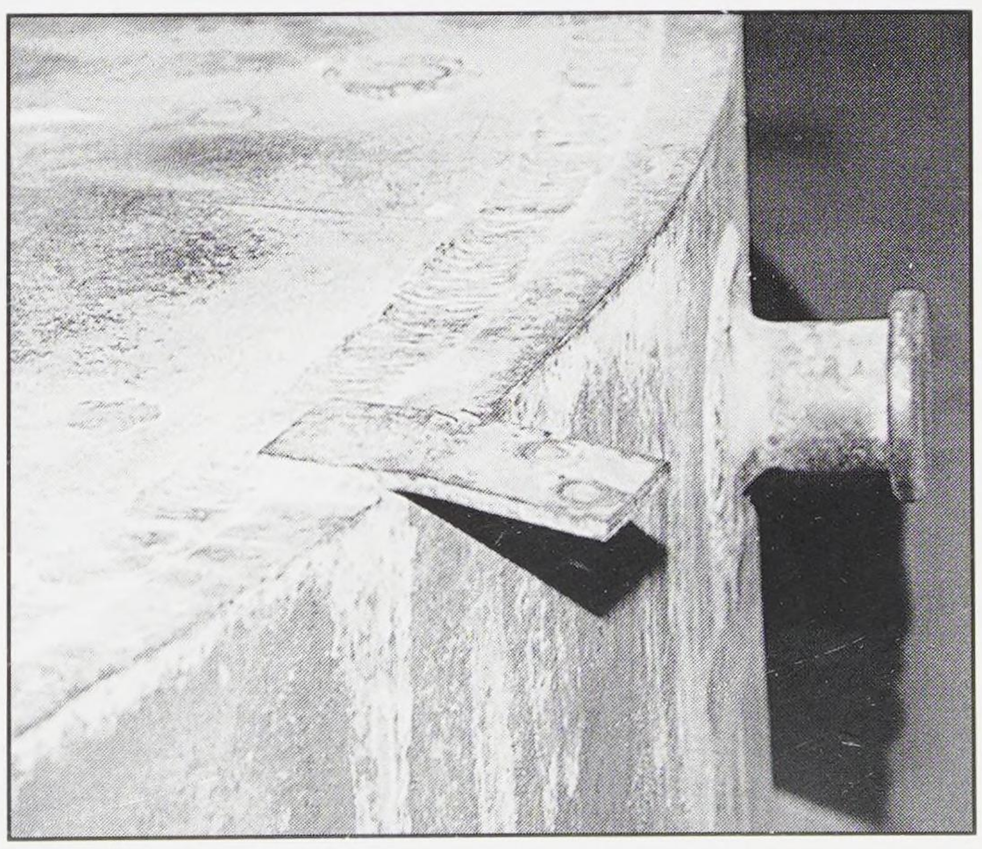
I

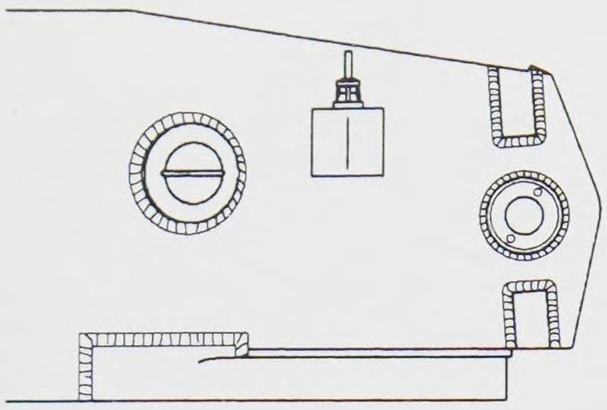


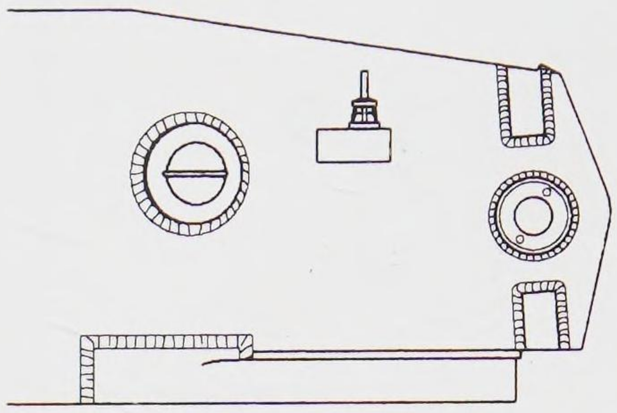
Rear turret lift bolt

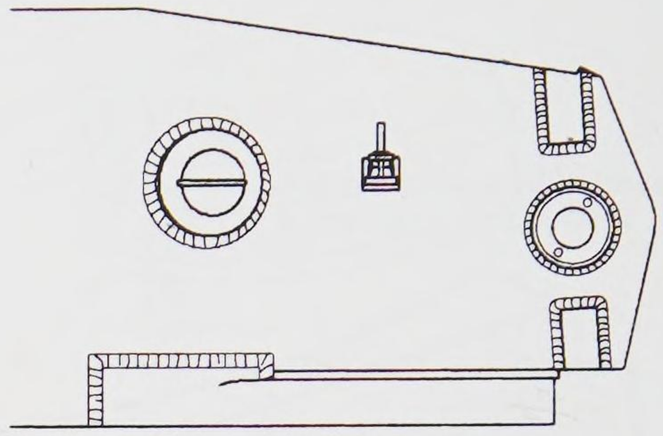
Welded brackets for mounting bin

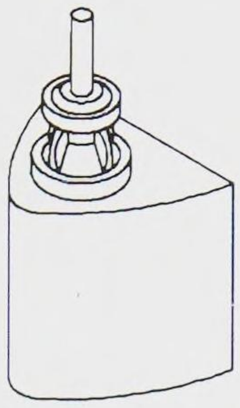
Front turret lift bolts are on main gun trunnions.











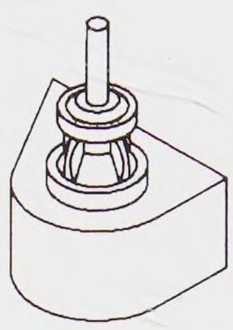
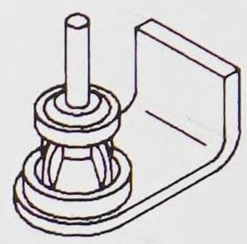
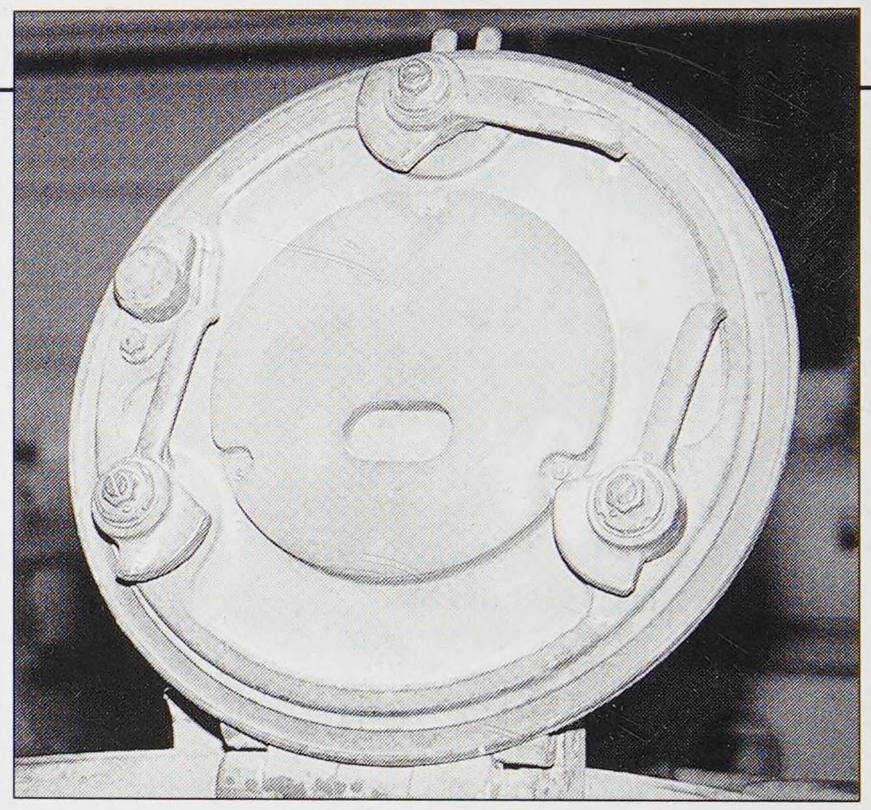
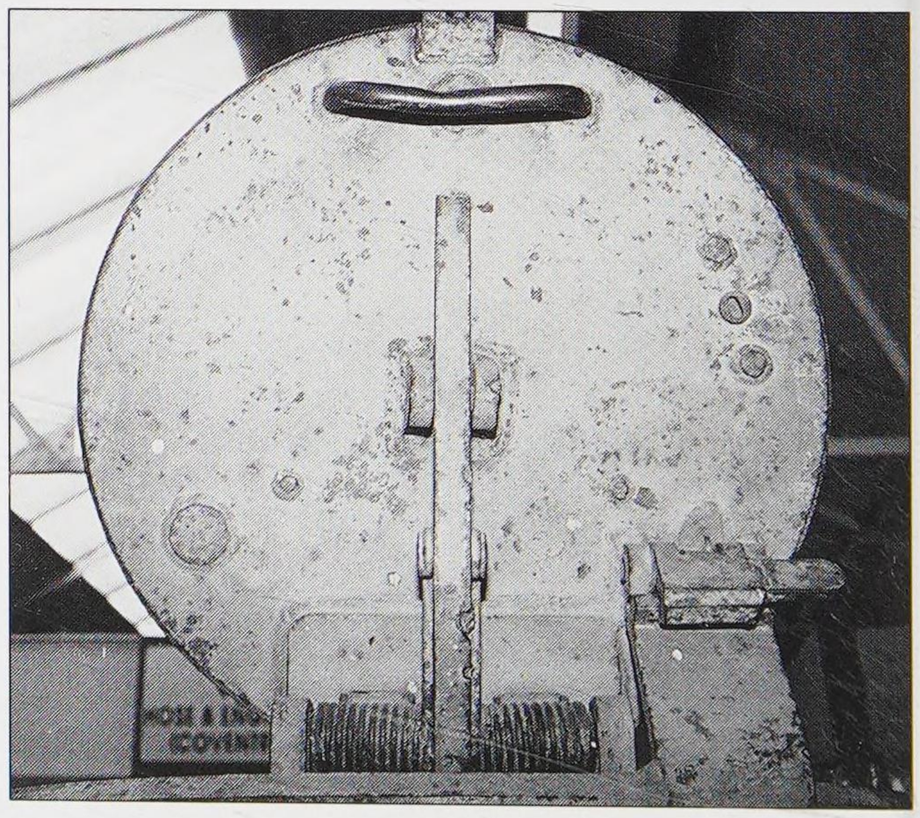
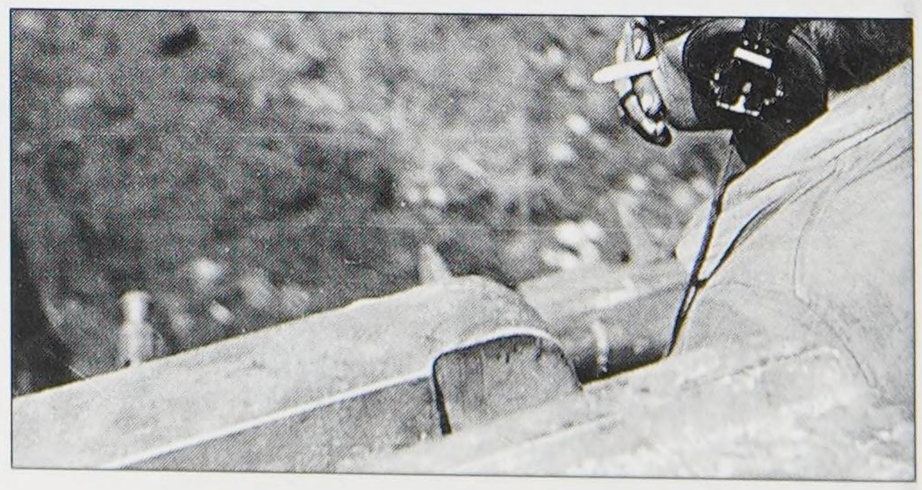


Fig. IJ-14
The s.Pz.Abt. 301-Fkl. used the Tiger I as a command vehicle for their Borgward B IV demolition vehicles. Photos of these vehicles document the three variations seen here,









Above: This Tiger crew is surveying damage caused by a direct hit to the cupola. The round struck near the hinge, which has jarred and damaged the interior latches. The hollow rods for the commander's rain shield can be seen quite clearly here. (BA) **Top right:** The interior face of the commander's hatch and its latches. **Center right:** The exterior of the hatch. Both photos are of the Bovington vehicle. **Bottom right:** A fascinating photo of the top of the mantlet showing clearly the wear of the paint around the edge of this cast piece. A very small, but distinctive amount of bare metal is visible. (BA)

THE TIGER II DESCRIBED

Even before the delivery of prototypes for the Porsche and Henschel VK 45.01 heavy tank designs, Porsche and Krupp began work on a new turret to mount a long-barreled 8.8cm L/71 main gun, based on the ballistics of the excellent Flak 41 anti-aircraft gun. Adolf Hitler himself insisted that the Flak 41 be installed in a tank turret as a means to develop a more powerful battlefield weapon. Dr. Fritz Todt, the Reichsminister for Armaments, became involved in the discussions concerning the new weapon. In the end, due to previously identified technical problems with the Porsche design, the Type 180, production contracts were cancelled in November 1942. The Krupp-designed turret was adapted for use on the later Henschel project, the VK 45.03. No production examples of the Porsche Type 180 were built.

Henschel did not begin working on a design to carry the longer L/71 gun until April 1942. Their first attempt, the VK 45.02 (H), was a simple development of the existing VK 45.01 design, with a sloped 100mm thick glacis plate. It was not successful and was not built. A second design, the VK 45.03, was also based on the automotive and physical details of the VK 45.01, but in February 1943 Henschel was told to include standardized components developed by M.A.N. for their Panther II project. Thus, the VK 45.03 ended up looking more like the Panther than the original VK 45.01 (H) Tiger.

Krupp had designed a new turret to mount the new 8.8cm L/71 gun, intended for the Porsche VK 45.02 (P). The turret was reworked to work on the Henschel VK 45.03 by removing the electric drives and substituting hydraulic drive systems. The early turret had several deficiencies which made it more expensive to produce, and Krupp later designed a new "Serienturm" ("series" or production turret) which was installed on all later production VK 45.03 tanks.

Henschel's chassis development was fairly convoluted. The earliest model, the VK 45.02 (H), was an adaptation of the VK 45.01 (H) Tiger, retaining the drive train and suspension of the earlier vehicle but using a new hull built with sloped armor plates. The bow MG 34 for the radio operator was to be fired through an opening in the glacis, similar to the open slot used in the early models of the Panther, with an armored cover that could be closed. In August 1942, Henschel was ordered to use the Maybach HL 230 P30 engine being worked up for the Panther. This required some redesign of the rear hull of the VK 45.02 (H), which now had to be set at 22 degrees from vertical.

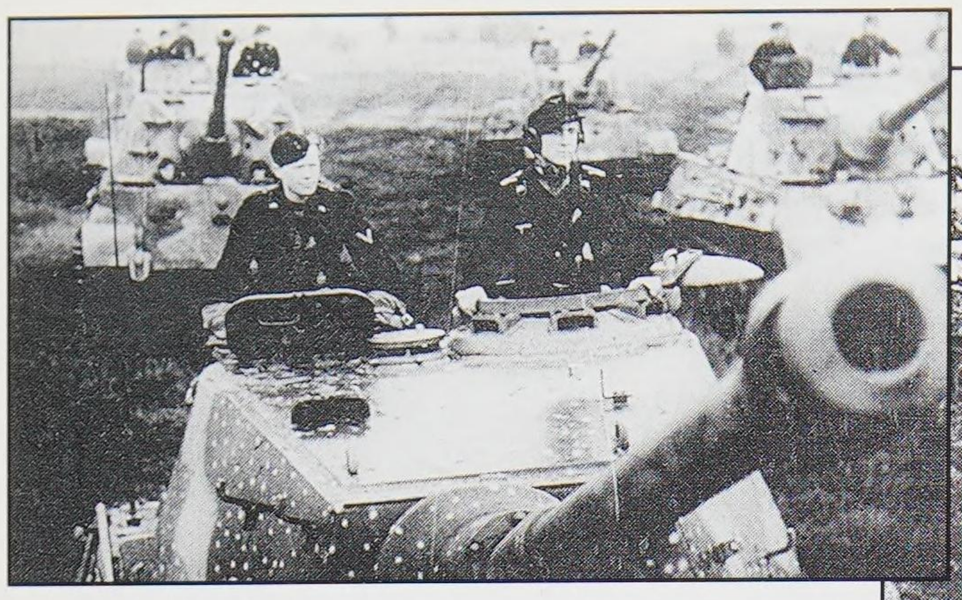
In late August 1942, Albert Speer, who had succeeded the late Dr. Todt as Reichsminister for Armaments, directed Henschel to produce an extra 300 Tiger chassis in two series - 140 to be identical to the VK 45.01 (H) series and the following 160 to be similar but with sloped frontal armor. In October 1942, Oberst (Colonel) Thomale of the Panzerkommission agreed to begin production of the VK 45.03 in September 1943. This design was to have the Panther engine and cooling system, a new Maybach Olvar transmission with an electromagnetic type as an alternate, a suspension with double interleaved roadwheels and tracks one meter wide. The roadwheels were a new steel tired disc type with internal rubber cushioning rings. They were designed to allow higher sustained speeds on road marches. At this point, the Henschel vehicle was referred to as the Tiger III.

Armor for this early version hull for the VK 45.03 had 100mm glacis and lower nose plates, 80mm thick superstructure sides, lower hull sides and tail plate, 60mm lower hull rear plate, 40mm forward bottom plate and 25mm thick rear bottom plate, pannier floors and hull top deck plate. The lower sides were machined to reinforce the area around the torsion bars. A direct opening vision port with an armor glass visor was to be installed in the glacis for the driver. Later, this was to be replaced with a rotating armored cylinder view port, but this was not adopted. A large hatch was cut into the forward hull top plate to allow the transmission and final drives to be removed without having to lift off the turret, similar to the layout for the M.A.N. Panther. The driver's and radio operator's hatches were mounted in this cover hatch.

In early January 1943, Hitler directed Speer to have the VK 45.03 glacis increased to 150mm thickness. The armor shields for the final drives were thickened to 100mm. The final glacis design was approved with a "Kugelblende" (ball mount) for the bow MG 34 and no direct vision port for the driver, who would have to use a rotating periscope set in the front of the hull top plate.

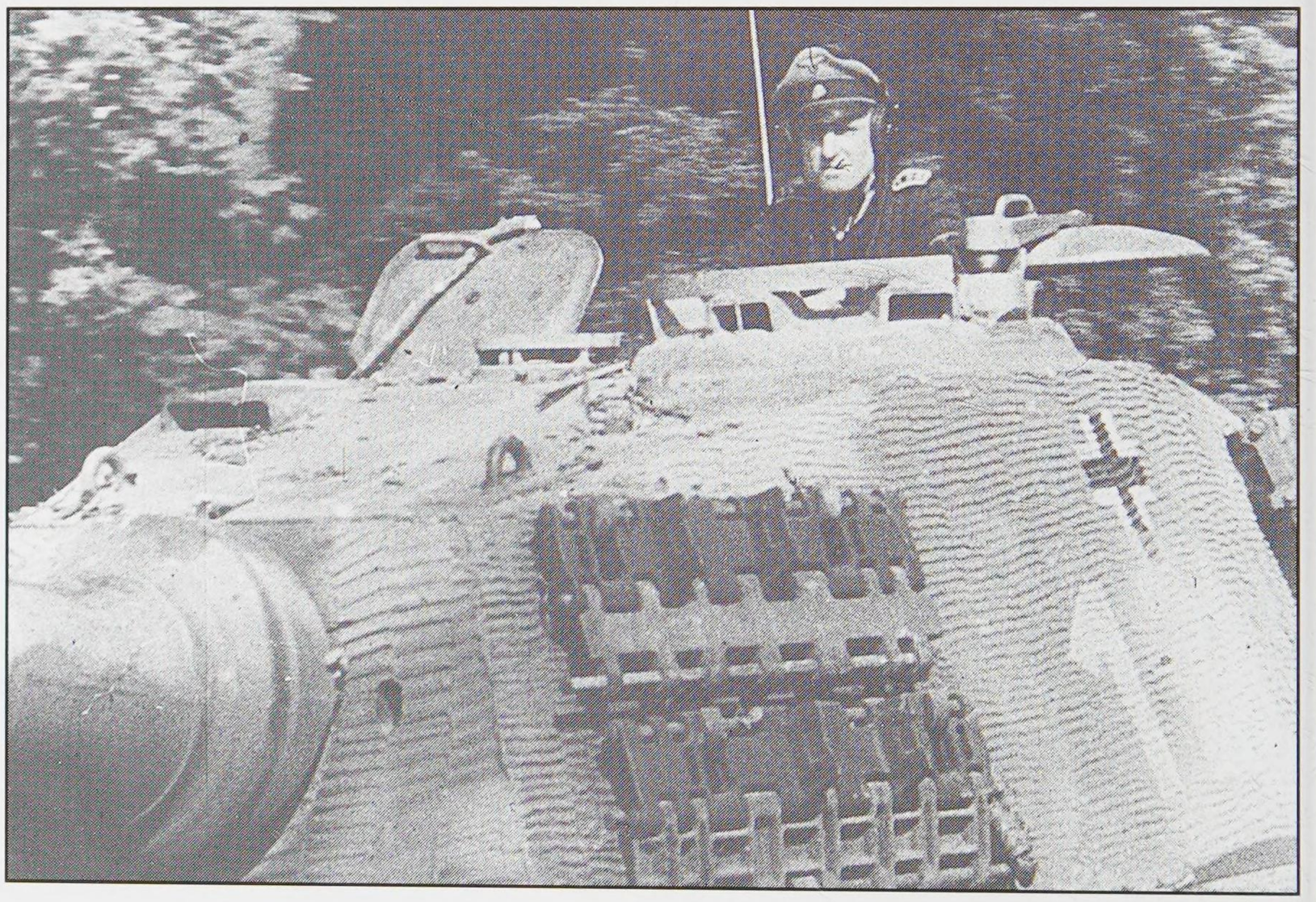
The VK 45.03 was to be standardized with the M.A.N. Panther II project and, as a result, a number of Panther II components were adopted. These included: engine cooling system, engine compartment layout, transmission ventilation layout, fuel system, engine exhaust pipe cooling and the hydraulic turret drive. The Panther II in turn was to adopt the "Tiger III" (VK 45.03) L801 steering unit, final drives and brakes. The hull was simplified to delete the lower rear sloped plate; the tail plate

This February 1944 production vehicle was one of several that was issued to the Panzerversuchstelle at Kummersdorf and used for testing and evaluation. According to Jentz' *Germany's Tiger Tanks; VK45.02 to Tiger II*, this is vehicle 250008 from the February production. The vehicle has been marked with a "V8" on its glacis plate, the V presumably meaning "versuch." An even, factory applied coat of Zimmerit obscures the distinctive welded view port and pistol port on the left side of the turret. The tank is undergoing recovery testing and has been purposely mired in a low-lying area. The Wehrmacht license plate and the uncovered Bosch light are of interest. (BA)



Above and right: Two stills from a well-known cine film showing Tiger IIs of the sPzAbt. 503 after its refit in September of 1944. All of the visible vehicles in the film have the "Series Turm" and a variety of camouflage schemes can be seen.

The comparison of the soft line scheme at left and the hard line scheme seen above is of interest. (TA) **Below:** Another still taken from a cine film, this photo depicts a Tiger II from s. SS PzAbt. 101 in Normandy during August of 1944. This is a classic June production vehicle with the 15mm loader's hatch and a factory applied coat of Zimmerit. (TA)



came all the way down to the bottom plate. The driver's seat could be raised to allow him to sit with his head out of the vehicle. When lowered, the seat positioned the driver to use the rotating periscope.

In any event, virtually every major component of the VK 45.03 had been designed for this vehicle or heavily modified. Only the Maybach "Olvar" OG 40 12 16 transmission was the same as the earlier Tiger, though the power takeoff for the turret traverse was altered. The 800mm diameter steel rimmed roadwheels were taken from the M.A.N. Panther II. Water and fuel filters had come from the design work on the Panther ausf. G; almost everything else was new.

The turret that Krupp designed for the Porsche VK 45.02 (P) was also proposed for the early Henschel VK 45.02 (H). The only major difference was that the Porsche tank required an electric turret drive and the Henschel required a hydraulic drive system. In August 1942, Wa Pruef 6 and Krupp began to rework the turret to simplify production. The cancellation of the Porsche VK 45.02 (P) left 50 Krupp turrets surplus and these were modified to use the hydraulic drive on the Henschel VK 45.03 chassis and installed on the first 50 vehicles. The early turret required extensive machining and forging due to the complex shapes and compound curves. The front 100mm plate had to be formed into a curved arc and the bulge for the cupola had to be pressed into the side plate during manufacture. The early turret design also suffered from a poorly protected turret ring and a shot trap under the curved front plate.

The later turret design eliminated many of the more complex machining and forging tasks, as the plates were now bent in straight curves and machined only as needed to mate with other components of the turret. The turret traverse speed was set at 8 degrees per second at 1,750 engine rpm (one full turn in 45 seconds) and 12 degrees per second at 3,000 engine rpm (one full turn in 30 seconds). The lower turret sides and front plate protected the turret ring. With the sides reset to a 20 degree angle, the bulge for the cast commander's cupola was eliminated, ending the most complex operation in producing the old turret. The 8.8cm L/71 main gun had been designated "KwK 43" and this was mounted in the turret front. The entire gun breech and tube could be removed through the rear turret hatch, eliminating the bolted-on rear turret wall of the old design.

By mid-1943, the production configuration for the new Henschel tank had been decided. Production began in January 1944 with three vehicles and continued to March 1945. Some 474 complete Tiger ausf. Bs were built, and virtually all were accepted for service. Only a handful survived the war in relatively intact condition and most of those were damaged or disabled.

Tiger ausf. B production changes

There were a number of production changes to the Tiger II, resulting in a variety of detail versions. By examining the details on a particular vehicle, it is possible to determine when the tank was constructed. This can help the historian and modeler in identifying photographs, historical battles and production vehicles.

The initial production Tiger ausf. B (Tiger II) appeared as described above. The early design turret was used on the three prototypes and the first 47 production tanks **(Fig. IIb)**. A few very early Tiger IIs had the telescoping snorkel trunk for deep wading to four meters. An armored cap covered the trunk when retracted. This feature was deleted at the end of March 1944 and only a dozen or so Tiger IIs had the armored cap. When the snorkel was deleted, the guide tube for the snorkel trunk was retained to protect the fuel tanks from artillery shrapnel and a screened cover was installed over the hole in the engine deck **(Fig. IIA-2)**. Some of the Tiger ausf. Bs built from January through March 1944 had straight exhaust pipes, instead of the later type that curved to the rear at the top **(Fig. IIE-1)**. Production Tiger ausf. Bs had sheet metal heat shields around the exhaust pipes to mid-May 1944 **(Fig. IIE-1a)**.

In February 1944, a coolant heater was added to the HL 230 P30 engine. This preheated the coolant prior to attempting to start the engine in cold weather. An access port, with an oval armor cover held by two fasteners, was bored in the tail plate. The cover was removed and a blowtorch was suspended from a fitting on the tail plate and left in

(text continued on page 59)

Fig. IIA-1 Early hull configuration

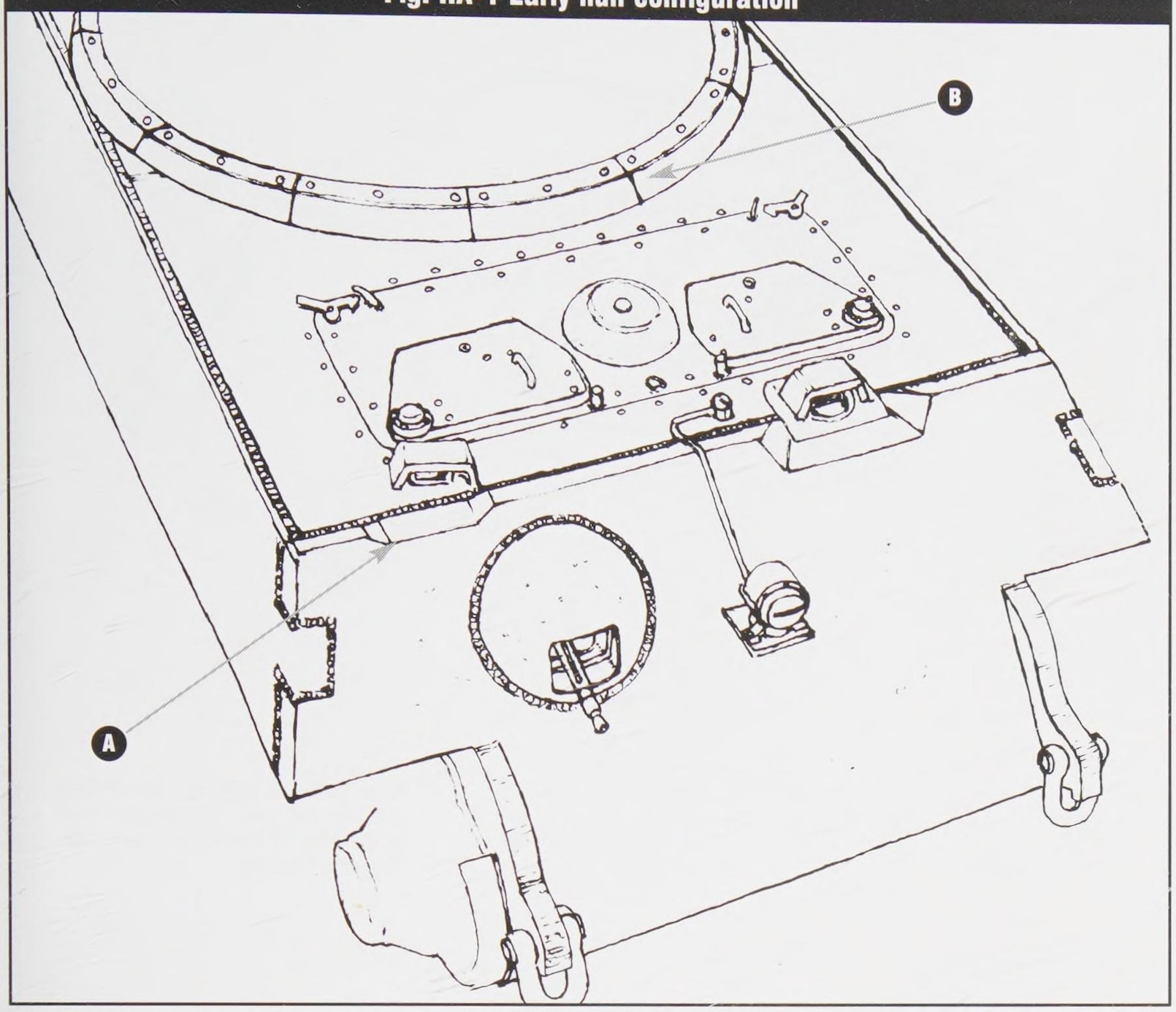
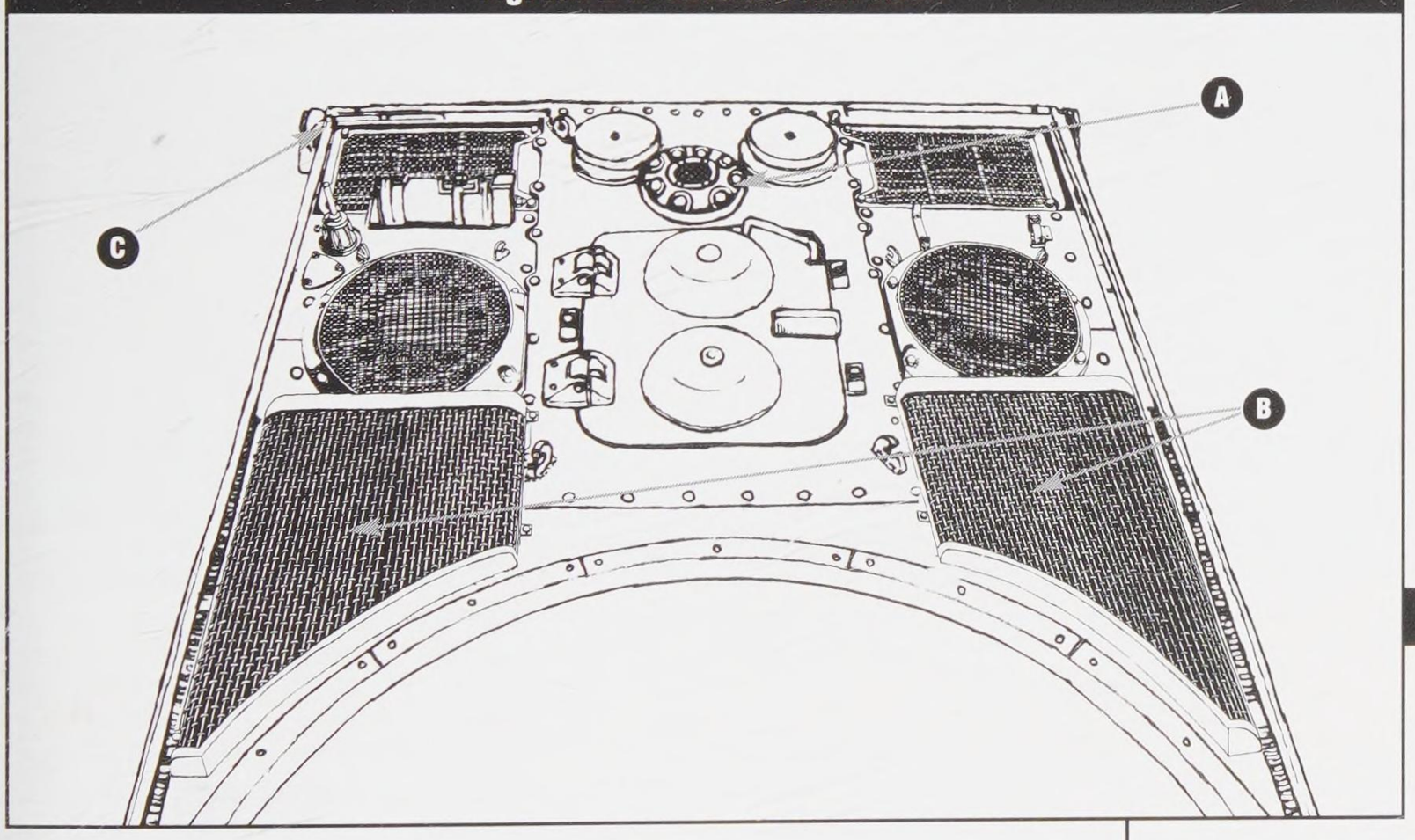
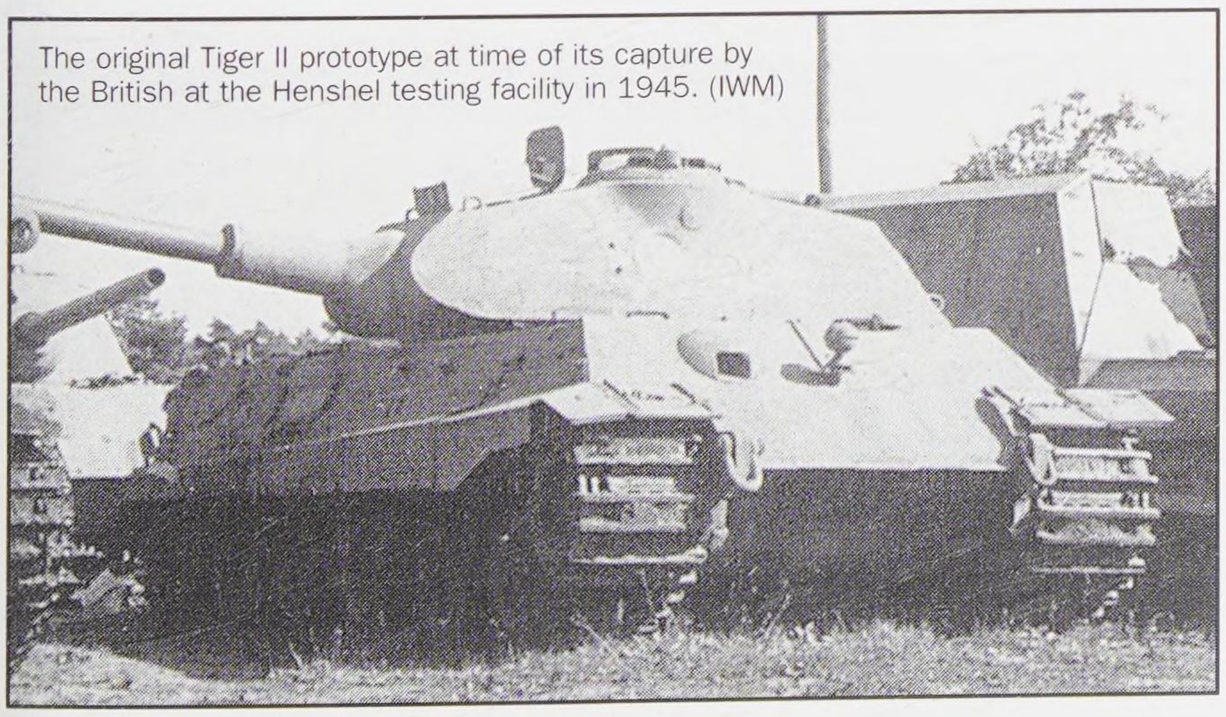


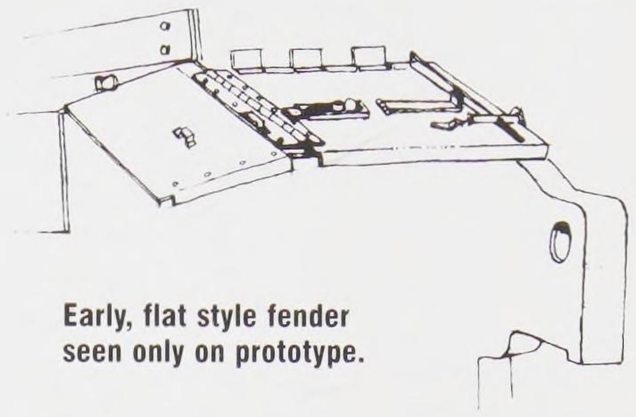
Fig. IIA-2 Production rear deck





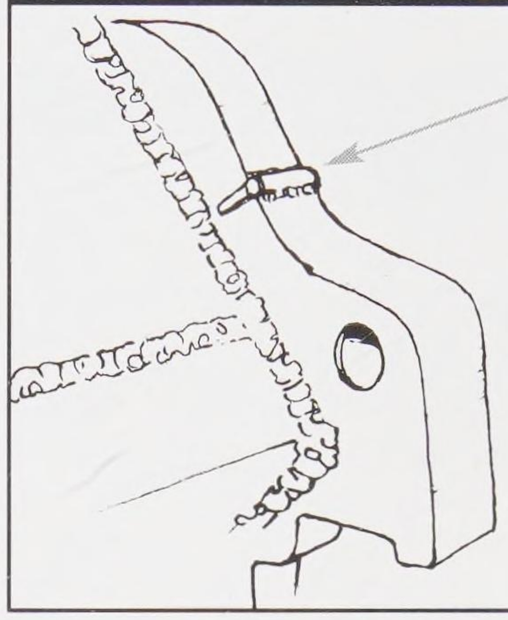
The original Tiger II prototype at time of its capture by the British at the Henshel testing facility in 1945. (IWM)

Fig. IID-1



Early, flat style fender seen only on prototype.

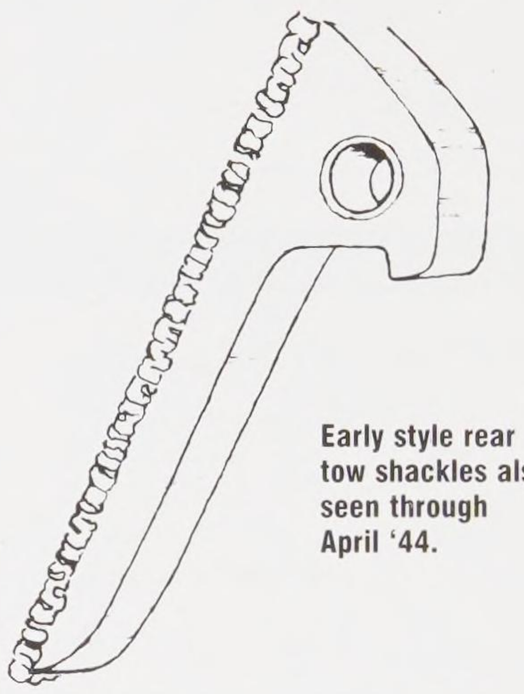
Fig. IID-2 Front towing shackles



Pin and holder to retain fender.

Early style front tow shackles seen through April '44.

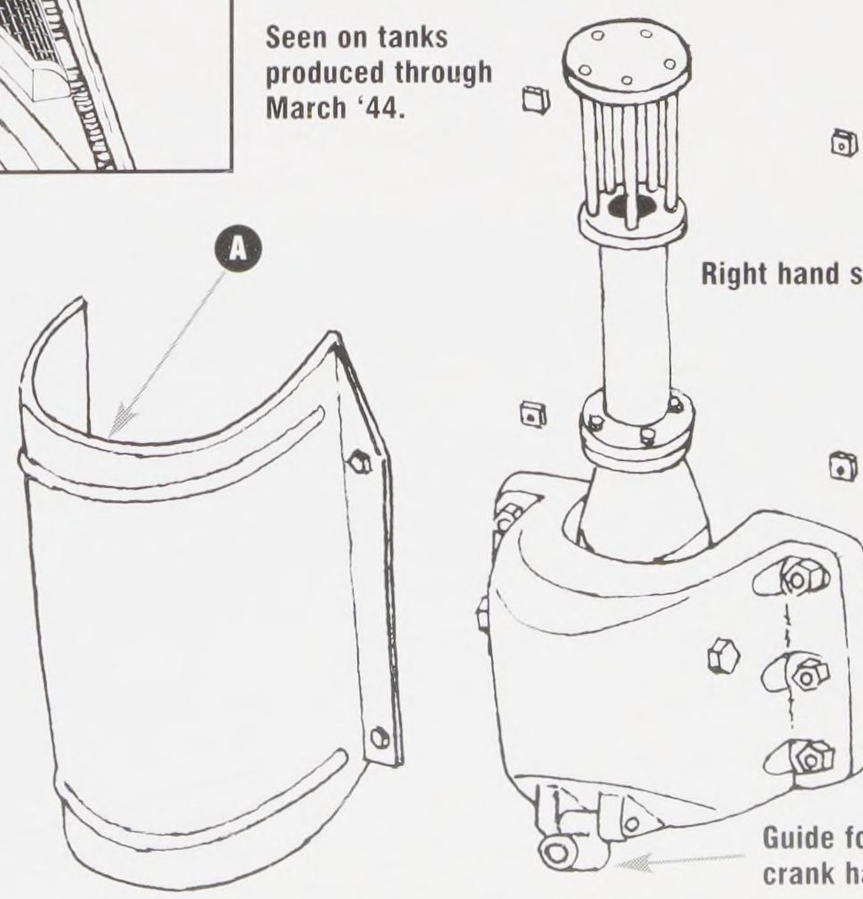
Fig. IIE-3a Rear towing shackles



Early style rear tow shackles also seen through April '44.

Fig. IIE-1 early rear exhaust

Seen on tanks produced through March '44.



Right hand side shown.

Guide for starter crank handle.

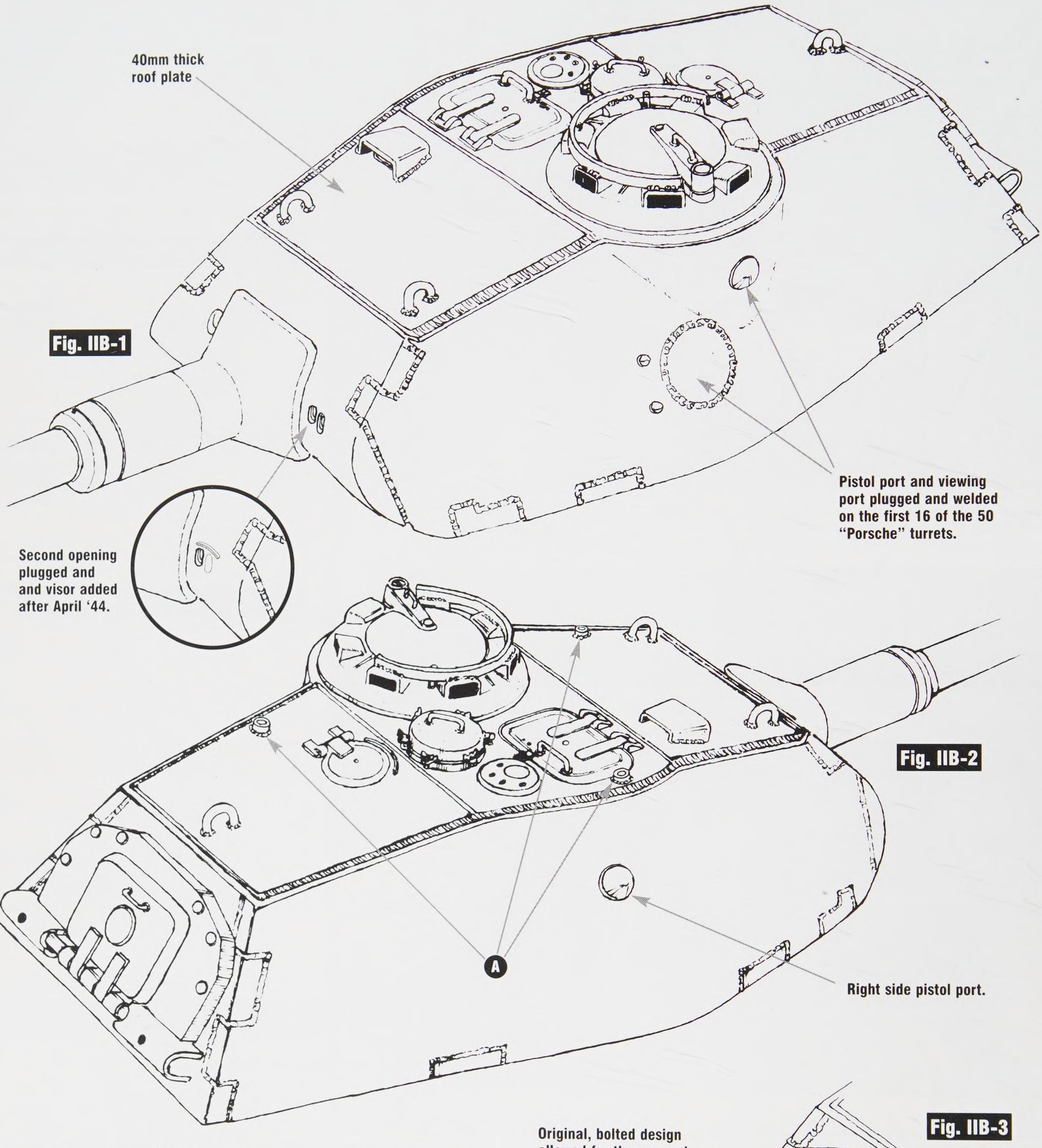
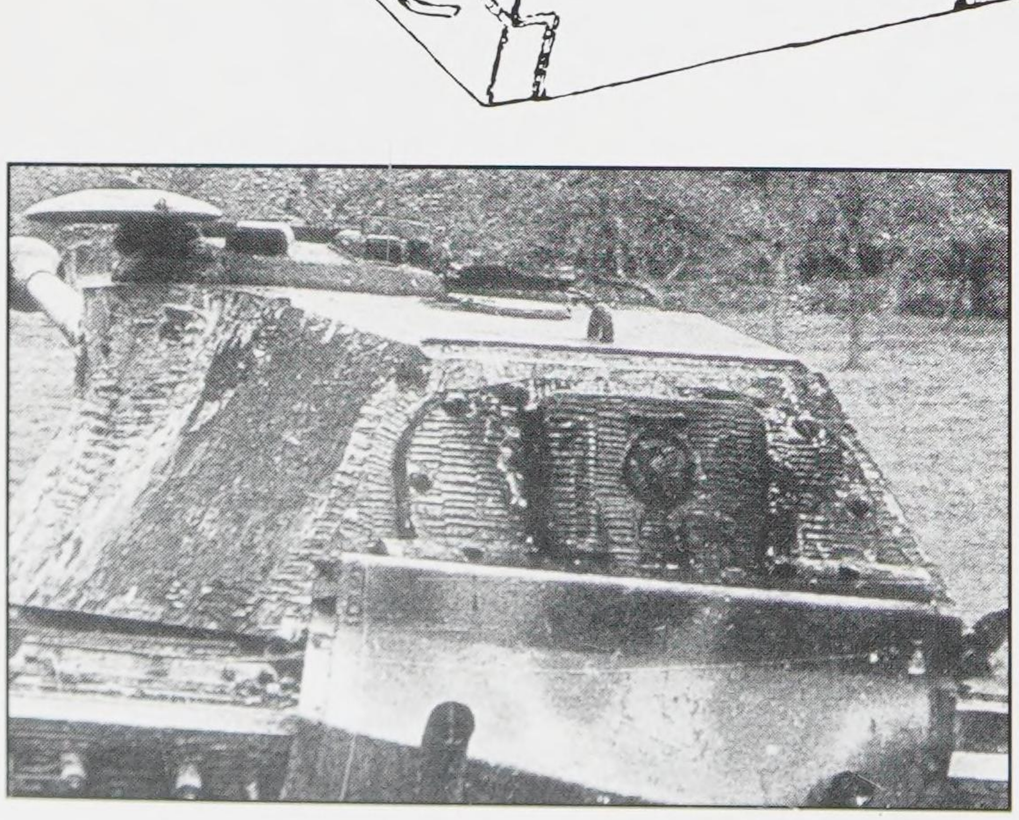


Fig. IIB-1

Fig. IIB-2



The early turret configuration is seen on this knocked out Tiger II of the s.PzAbt. 503 during the Normandy fighting. (IWM)

Original, bolted design allowed for the removal of the main gun through the turret rear.

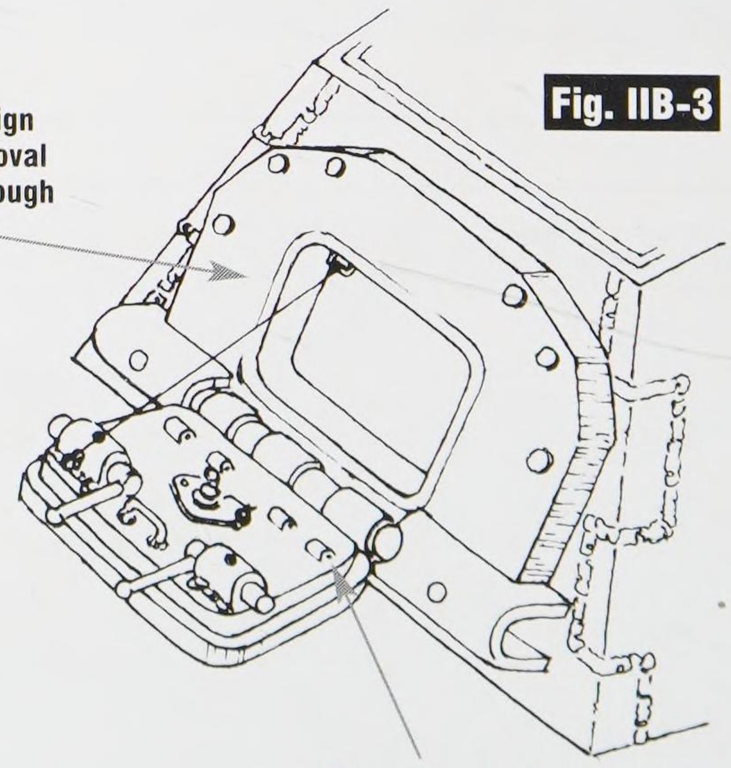


Fig. IIB-3

Fig. IIA-3 Production hull configuration

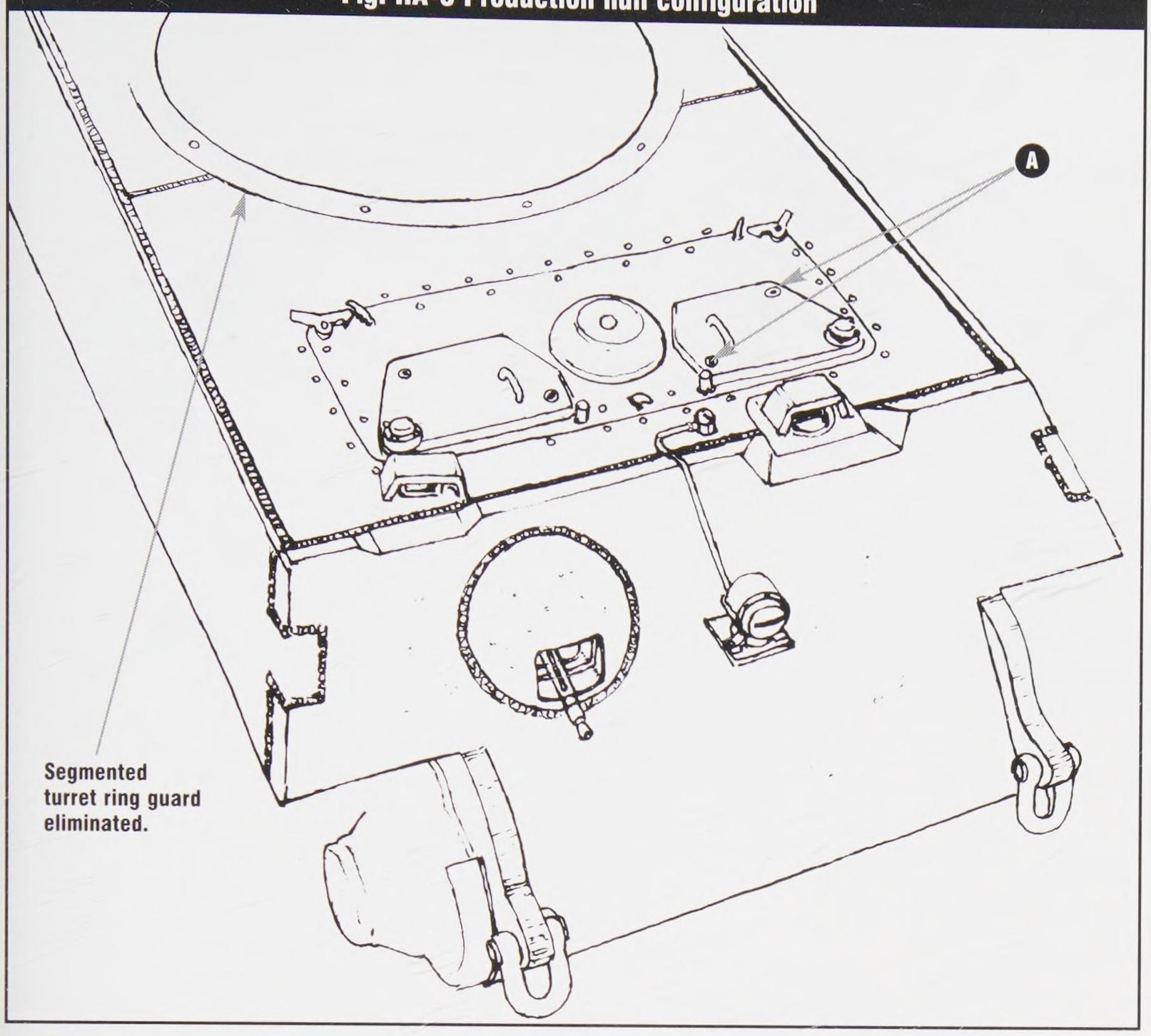


Fig. IID-3 Production mudguard

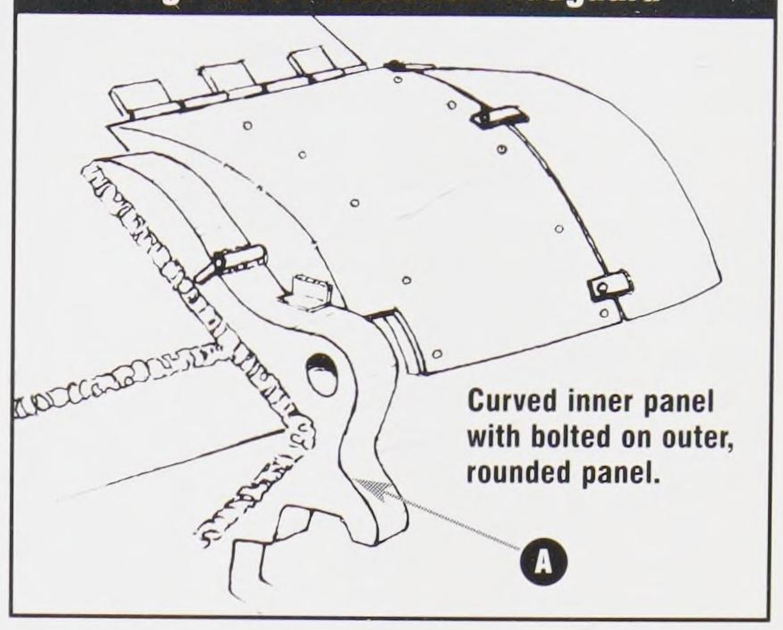
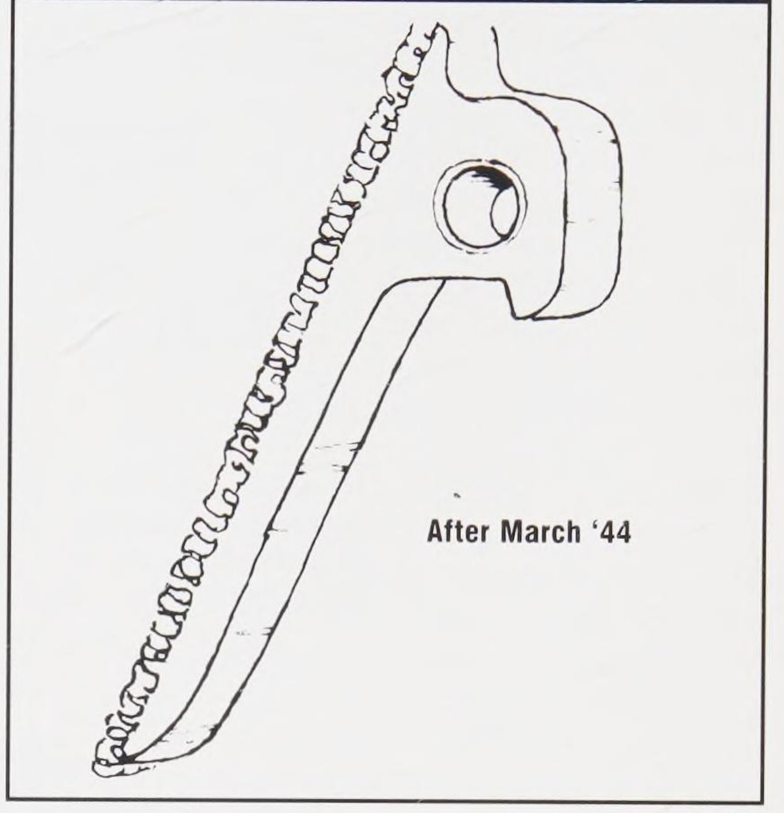
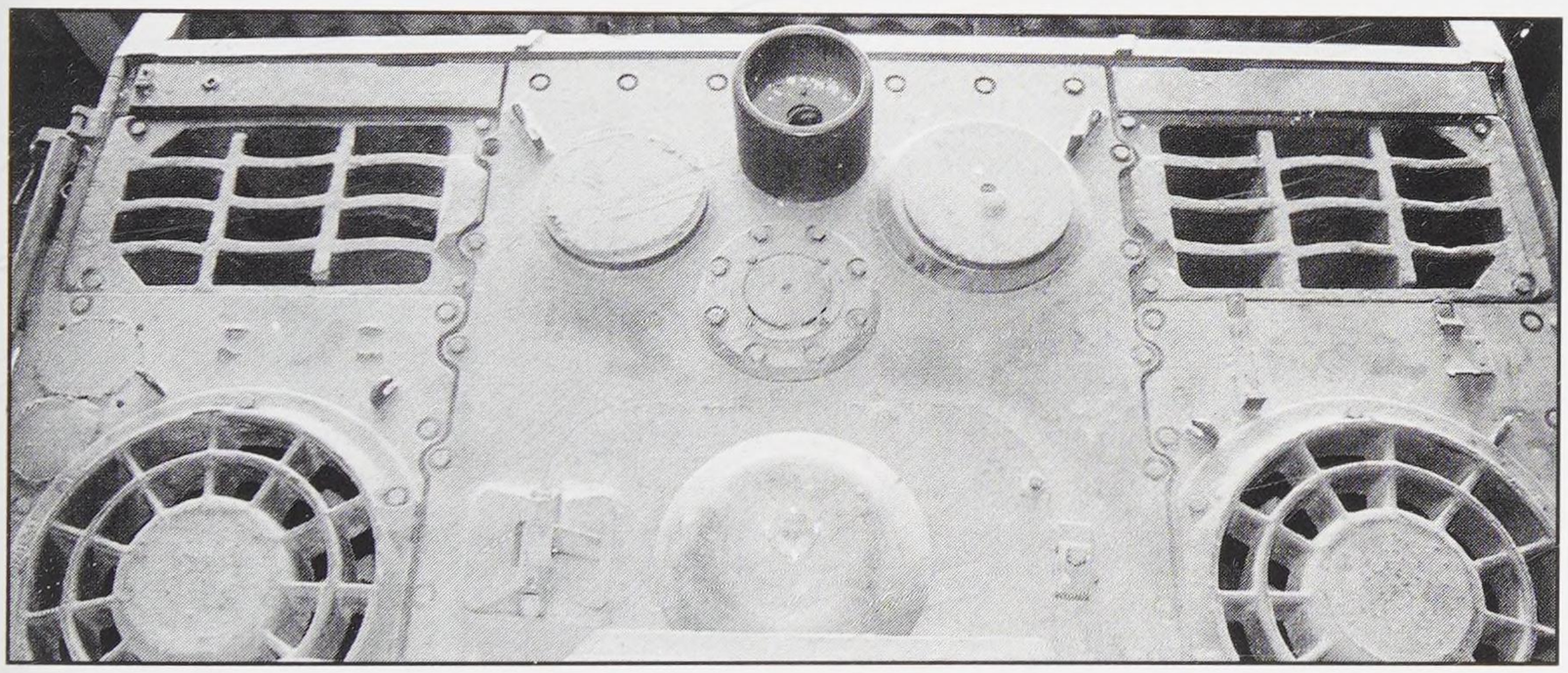


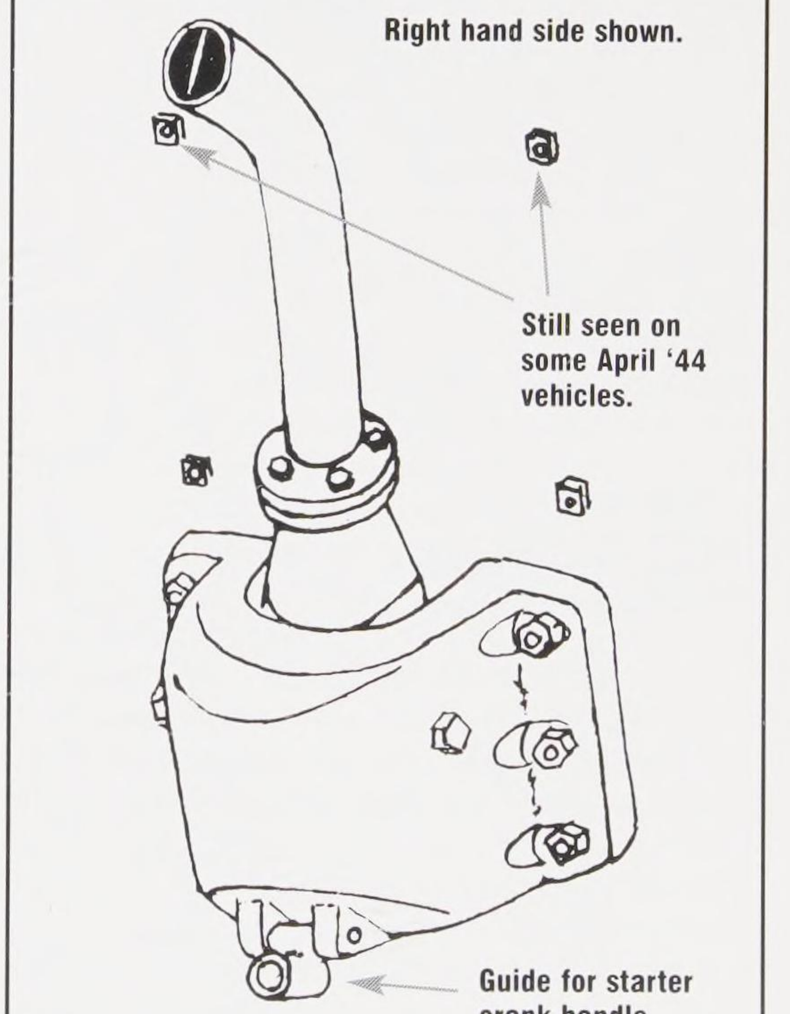
Fig. IIE-3b Rear towing shackles





The rear deck of the Tiger II located at the Kubinka facility in Russia. The tank was originally outfitted as a Befehlswagen and the protective pot for the rear antenna can be seen at the top of the photo. The deck screens are missing here and details of the grills are visible. The snorkel cover and right rear vent have been plugged with welded plates. (TA)

Fig. IIE-2 Rear exhaust

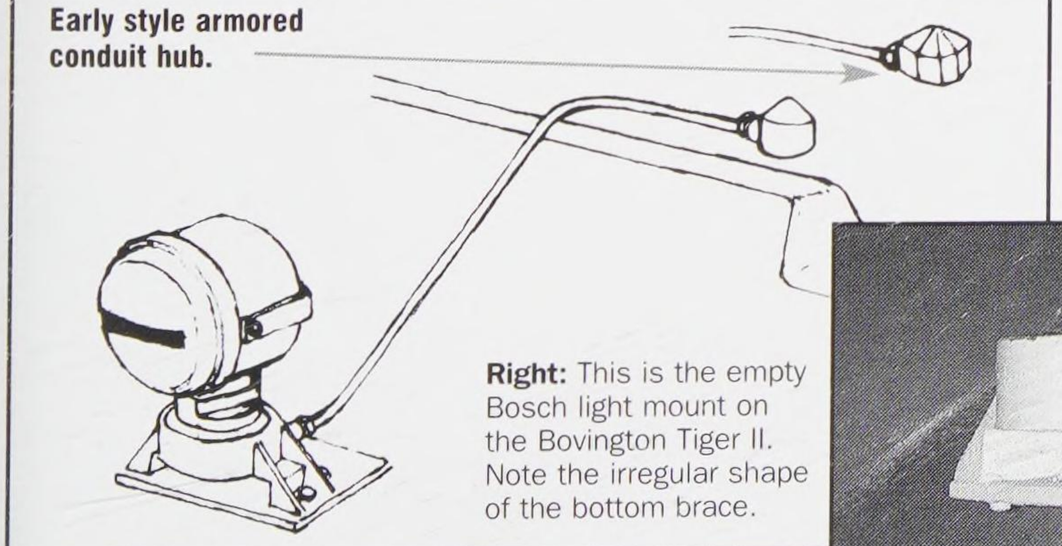


place to heat the engine coolant.

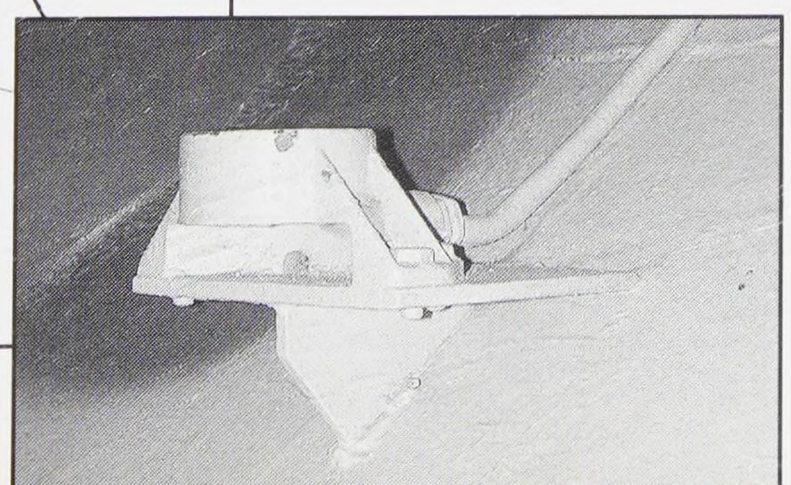
In April 1944, a notch was cut from the protruding upper edge of the glacis in front of the radio operator's periscope to improve his close-in field of view **(Fig. IIA-1a)**. At the same time, the forward hull side extensions were cut away around the tow shackle holes to attach the large "C" hooks for towing **(Fig. IID-3a)**. The two rear side extensions also were cut back around the rear towing holes **(Fig. IIE-3b)**. Another change in April was the introduction of a bolted four-segment turret guard to protect the exposed turret ring **(Fig. IIA-1b)**. With this change, the screen assemblies protecting the turret bustle had to be modified **(Fig. IIA-2b)**. At the same time, a fuel vent was added to the fuel system **(Fig. IIA-2c)**. The binocular T.Z.F. 9b/1 gunner's sight was changed to the monocular T.Z.F. 9d sight, and the left hole in the turret front plate had to be filled with a welded plug. Finally, the barrel for the 8.8cm

(text continued on page 61)

Fig. IID-5 Hull mounted bosch light



Right: This is the empty Bosch light mount on the Bovington Tiger II. Note the irregular shape of the bottom brace.



Production turret details

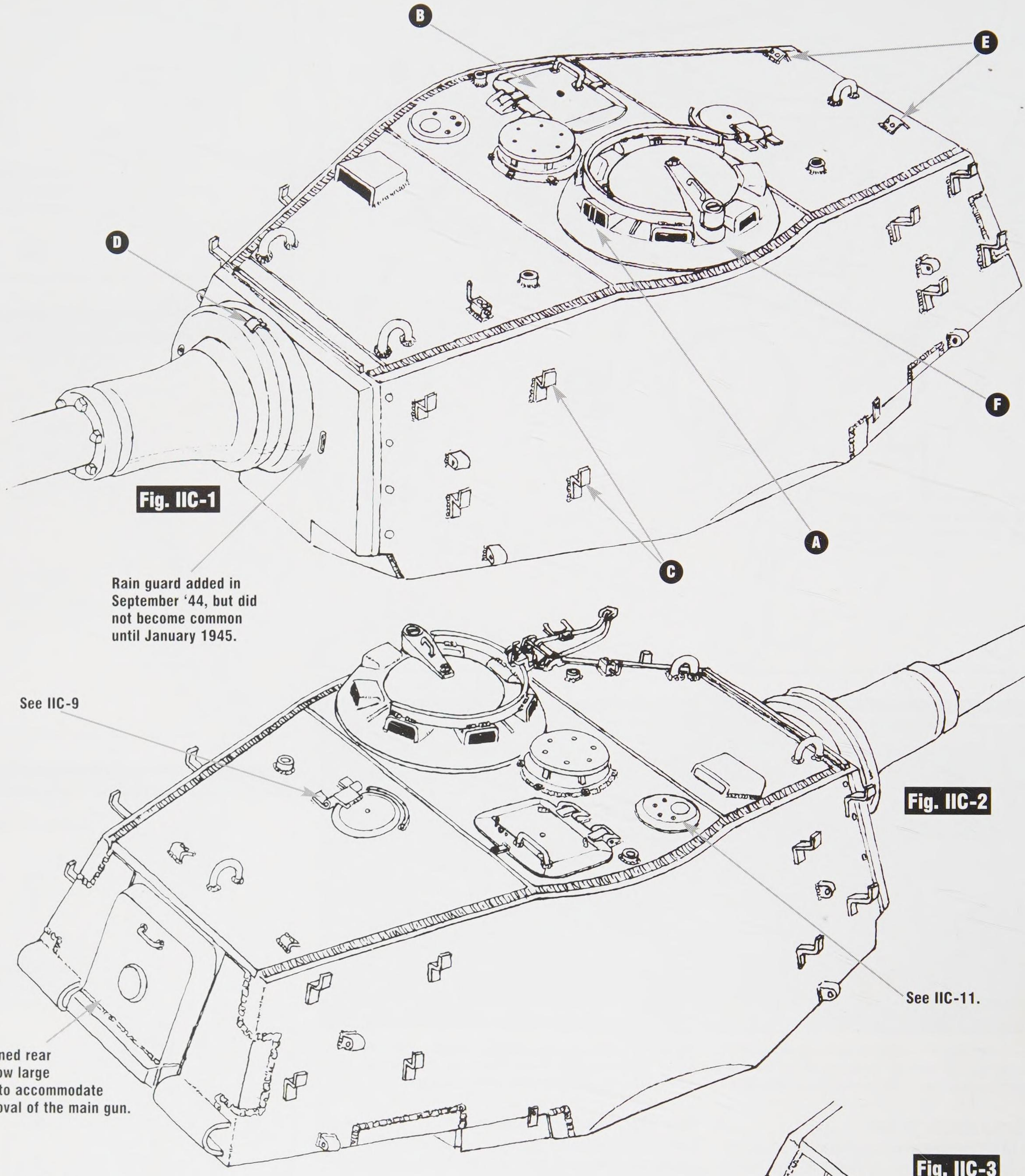


Fig. IIC-1

Fig. IIC-2

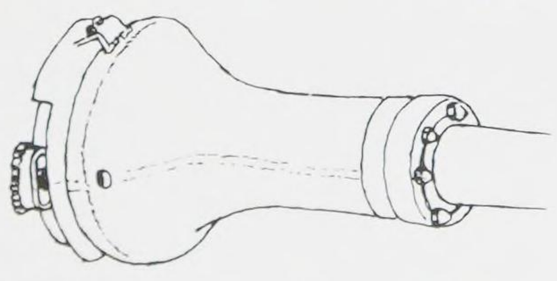
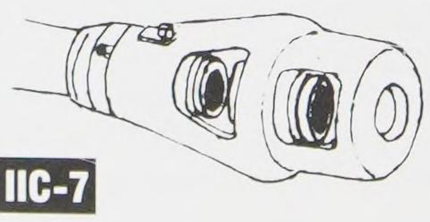
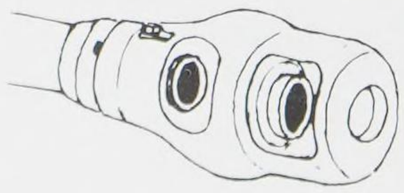


Fig. IIC-6 Production mantlet variation.



Late



Early

Fig. IIC-7 Production mantlet variation.

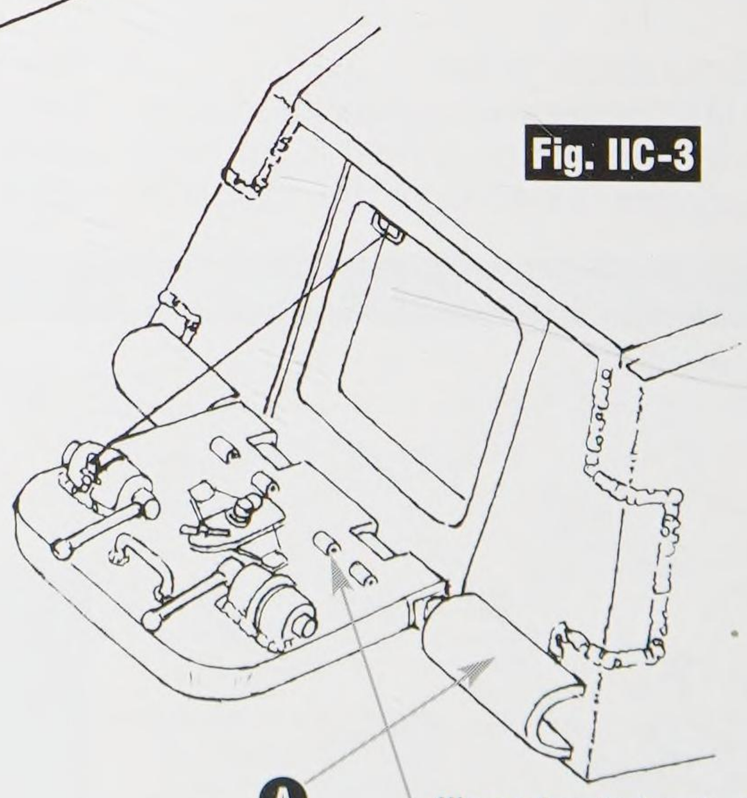
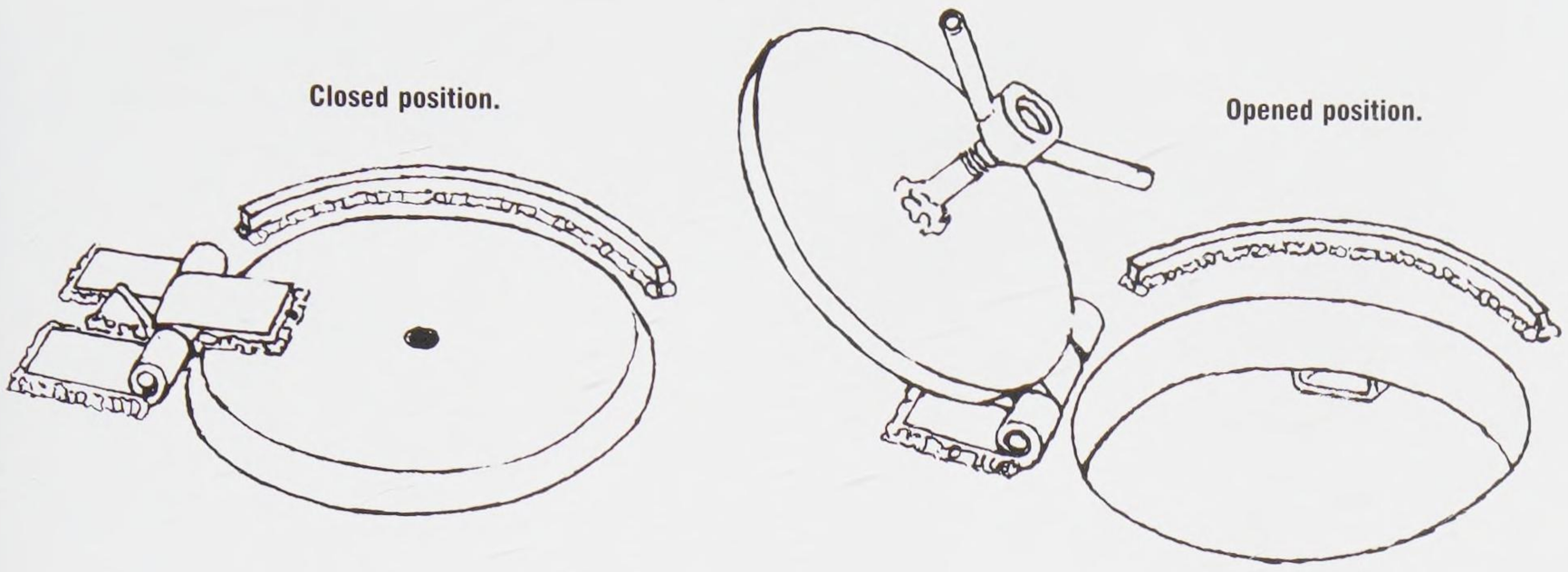


Fig. IIC-3

Hinges for steel protective cover (not shown).

Fig. IIC-9 Shell ejection port



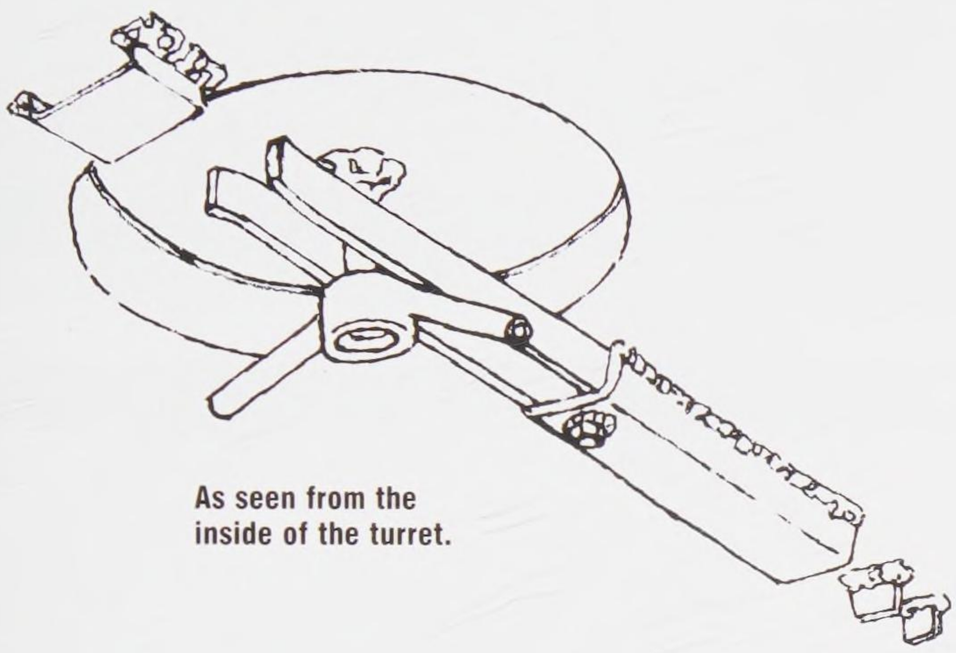
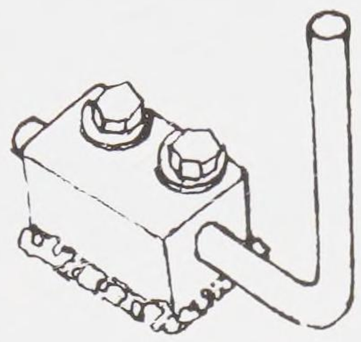


Fig. IIC-8 Commander's vane sight



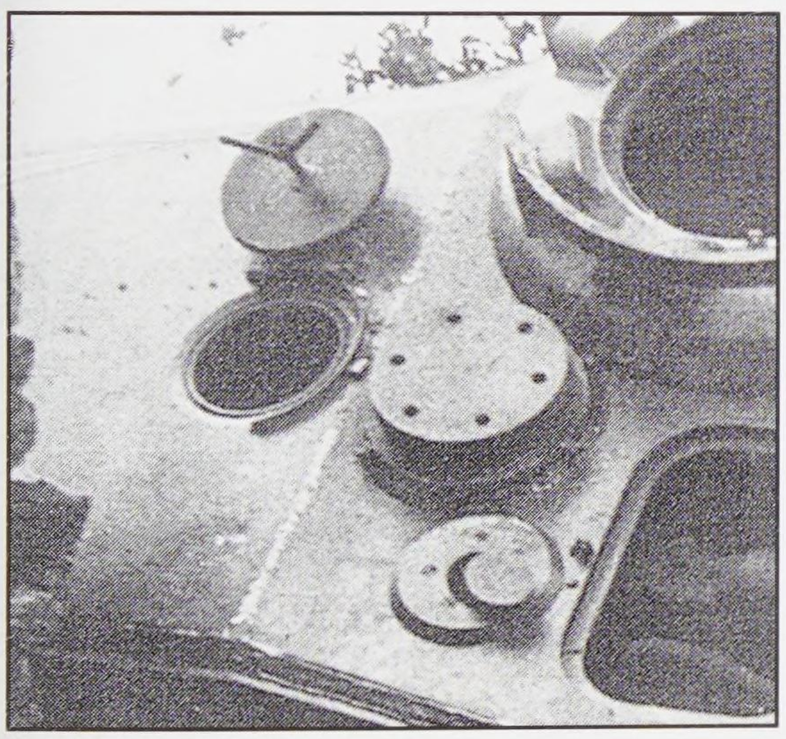
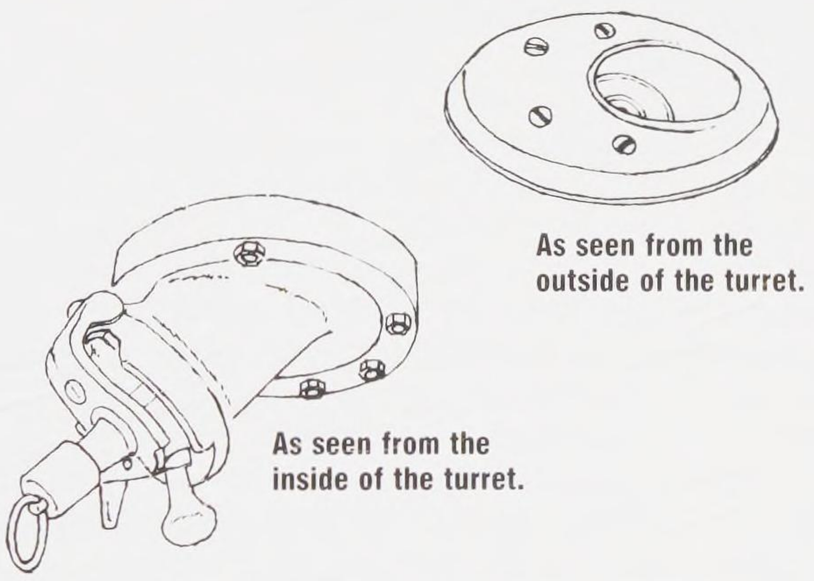
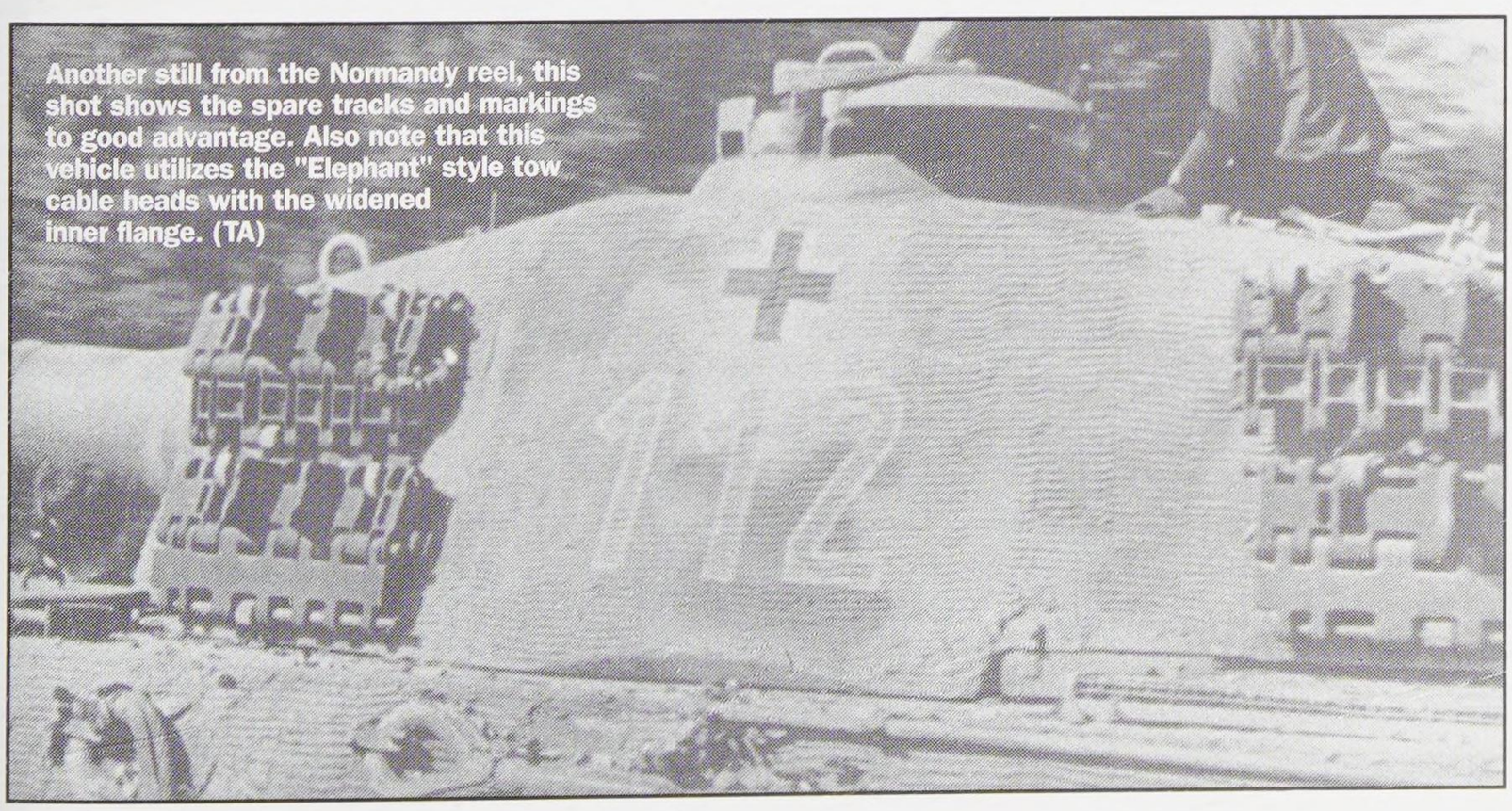


Fig. IIC-11 Nahverteidgungswaffe




Another still from the Normandy reel, this shot shows the spare tracks and markings to good advantage. Also note that this vehicle utilizes the "Elephant" style tow cable heads with the widened inner flange. (TA)

KwK 43 L/71 was changed. Starting in mid-April, Tiger ausf. Bs used a sectional gun tube having a stepped sleeve construction. A few tanks made in May and June used up the supply of old barrels.

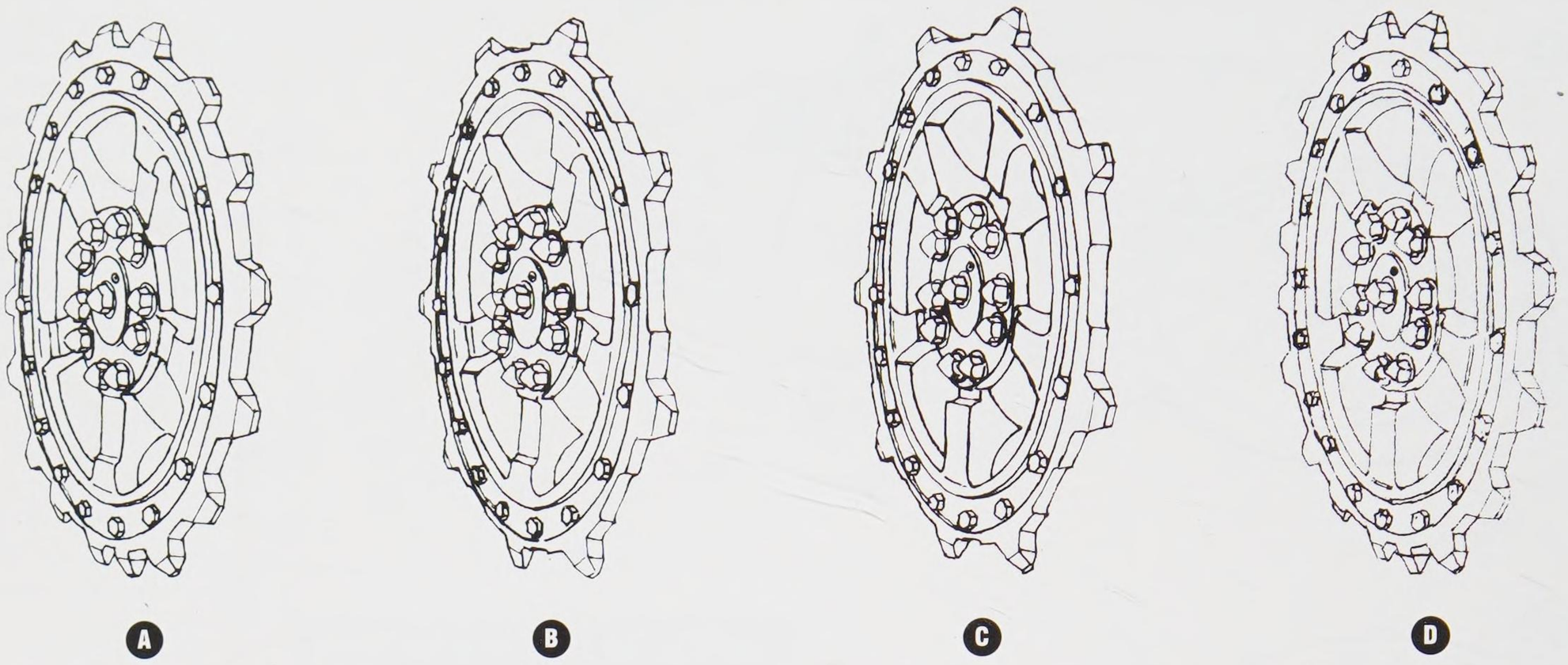
In May 1944, the original multiple piece double link track was replaced with a new type with a solid bridge link, instead of the small separate bar links. This required that the drive sprockets have only nine teeth, instead of the original eighteen. Existing early sprockets had the extra teeth cut off and ground smooth **(Fig. IIF-1b)**. Also in May, a fixed vane sight was added to the forward turret roof in front of the commander's cupola **(Fig. IIC-8)**.

In June 1944, the turret was modified with the addition of three "Pilze" (sockets) for mounting a 2-ton jib boom crane on the turret roof. The crane was used to lift engines, transmissions, final drives and rear deck sections for maintenance. It could also lift parts from an adjacent vehicle. This made the Tiger IIs more self-sufficient in the field for repairs. Also in June, a smaller muzzle brake was fitted to the KwK 43.

The major change in June 1944 was the introduction of the improved "Serienturm" (series production turret) **(Fig. IIC)**. This was a complete turret body redesign having little to do with the earlier type. The two turrets were not interchangeable on a Tiger ausf. B chassis without modifications, as the mounting design was different. However, the chassis could be modified, as required, to change out turrets. A well-equipped field repair unit could complete this task.

In the "Serienturm," the 180mm thick front plate was flat, angled at 10 degrees. The 80mm side plates were set at 20 degrees, which eliminated the need for the cupola bulge in the left side. The roof plates were all 40mm thick, horizontal in the center and angled at 80 degrees from the vertical forward and aft. The KwK 43 could be removed through the rear hatch without having to remove the turret rear wall, though the internal ammunition racks had to come out. To remove the mount itself, the rear hatch had to be removed. The gun mantlet protected the main gun tube and coaxial MG 34. The gunner's sight was the monocular T.Z.F. 9d type. It was mounted the same as for the early Tiger II turret. The loader's periscope was mounted the same as in the early turret. The commander's cupola was welded to the turret roof with a prominent weld seam all around the base of the casting. The forward fixed sight for the commander was mounted on the roof and two closely spaced wires were welded to the forward facing periscope armor cover to serve as the rear sight for the fixed roof sight **(Fig. IIC-1a)**. There were three interior turret lights and a receptacle for a portable work light. In late June, the old 15mm thick loader's hatch was replaced with a 40mm thick simpler hatch **(Fig. IIC-1b)**. The hatch opening in the turret roof was

Fig. IIF-1 Drive sprocket progression



cut straight through without a rim. Hooks for hanging track links were welded to the turret sides fore and aft, allowing two pairs of links to be hung in each location **(Fig. IIC-1c)**.

In early July 1944, the turret was modified with the addition of mounts for poison gas detection plates. One mount was placed on the gun mantlet **(Fig. IIC-1d)** and two were added to the rear turret roof **(Fig. IIC-1e)**. The cupola periscopes were redesigned with quick-release mounts.

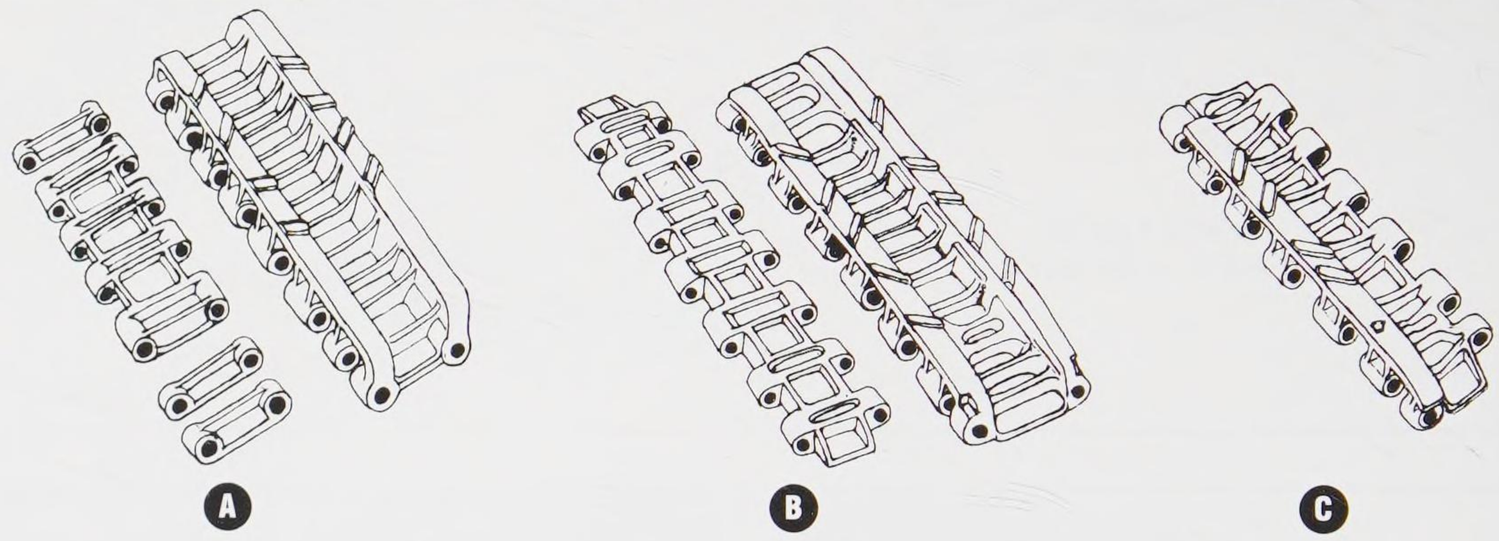
August 1944 saw the introduction of a new commander's cupola. Physically similar to the welded version, the new cupola was bolted to the turret roof, eliminating the prominent weld seam **(Fig. IIC-1f)**. Also, armor covers were added to protect the rear hatch torsion bars **(Fig. IIC-3a)**. The drive sprockets were changed, with the mounting bolts for the toothed rings offset from the teeth, instead of lined up with them **(Fig. IIF-1c)**. From mid August 1944, Tiger ausf. Bs were finished in a factory color scheme of sprayed three-tone camouflage, and delivered in this completed scheme to the Wehrmacht.

In September 1944, the application of zimmerit anti-mine cement was discontinued. At the same time, an armored cap was added to replace the screen cover for the old snorkel trunk. From early September 1944, the factory camouflage at Henschel's Kassel works was changed. The Tiger IIs were to be delivered in the red oxide primer paint without the overcoat of Dark Yellow. Contrasting patches of Olive Green, Red Brown and Dark Yellow were to be used.

In October 1944, the 20-ton jack was eliminated from the Tiger II, along with the wooden jack block. All the mounting brackets were deleted as well. In late October, the same change in camouflage scheme was applied at the MNH plant in Hannover and all manufacturers were ordered to stop painting the interiors of tanks. All interior components and armor assemblies were to be left in their delivered condition.

In November 1944, the driver and radio operator hatches were altered. The original latch design was deleted and replaced by two separate key-operated locks **(Fig. IIA-3a)**. These were located in the forward inboard area and outer rear corner of each hatch. At the beginning of November, some turrets had an inverted "U" shaped rain shield welded over the gunner's sight aperture in the front turret plate. By January 1945, all new turrets had this feature; early deliveries of armor components meant that some tanks from December 1944 had turrets without the rain shield.

Fig. IIF-2 Track progression



A Early style Gg 24/800/300 track.

B Production Gg 26/800/300 track.

C Late, single link Kgs 73/800/152 track.

In late December 1944, OKH accelerated the introduction of a new camouflage system originally scheduled for March 1945. All armor components were to be painted in an overall coat of RAL 6003 Olive Green before delivery to the final assembly plants. The factories were to spray RAL 8017 Red Brown and RAL 7028 Dark Yellow in hard edge patterns as the standard color scheme. Components with the Olive Green base color were delivered starting in January 1945. By late January 1945, armored vehicles were again to have the interiors of turrets (or StuG hulls above the track guards) painted in the "Elfenbein" (Ivory) color. Existing paints could be used until the end of May 1945. Most interior stenciling was to be deleted after mid-January 1945.

In March 1945, a new single link track replaced the older double link type **(Fig. IIF-2c)**. The drive sprockets had to be modified with eighteen teeth in the outer rings **(Fig. IIF-1d)**. At this time, completed Tiger ausf. B tanks were delivered in the overall Olive Green scheme ordered in January. The front track guards had added vertical flanges on the outboard sides of the fixed segments **(Fig. IID-4)**. Also in March 1945, three sets of track hanging hooks were welded to the turret sides in each position **(Fig. IIC-12a)**. They were to hold the new single link track. Finally, five half loops of bent rod were welded to each turret side to hold camouflage foliage or netting **(Fig. IIC-12b)**. March 1945 was the last month the Tiger ausf. B was produced; American troops captured Henschel's assembly plant in Kassel.

This photo, taken at the Henshel testing facility in late 1944, shows the very vivid nature of the hard line camouflage scheme. (TA)

This March '45 production was still not fitted with cross country tracks when it was destroyed. The new design of the front fenders can be seen clearly here. This tank still retains its welded AA gun ring on the commander's cupola. (TA)

March '45 Variations

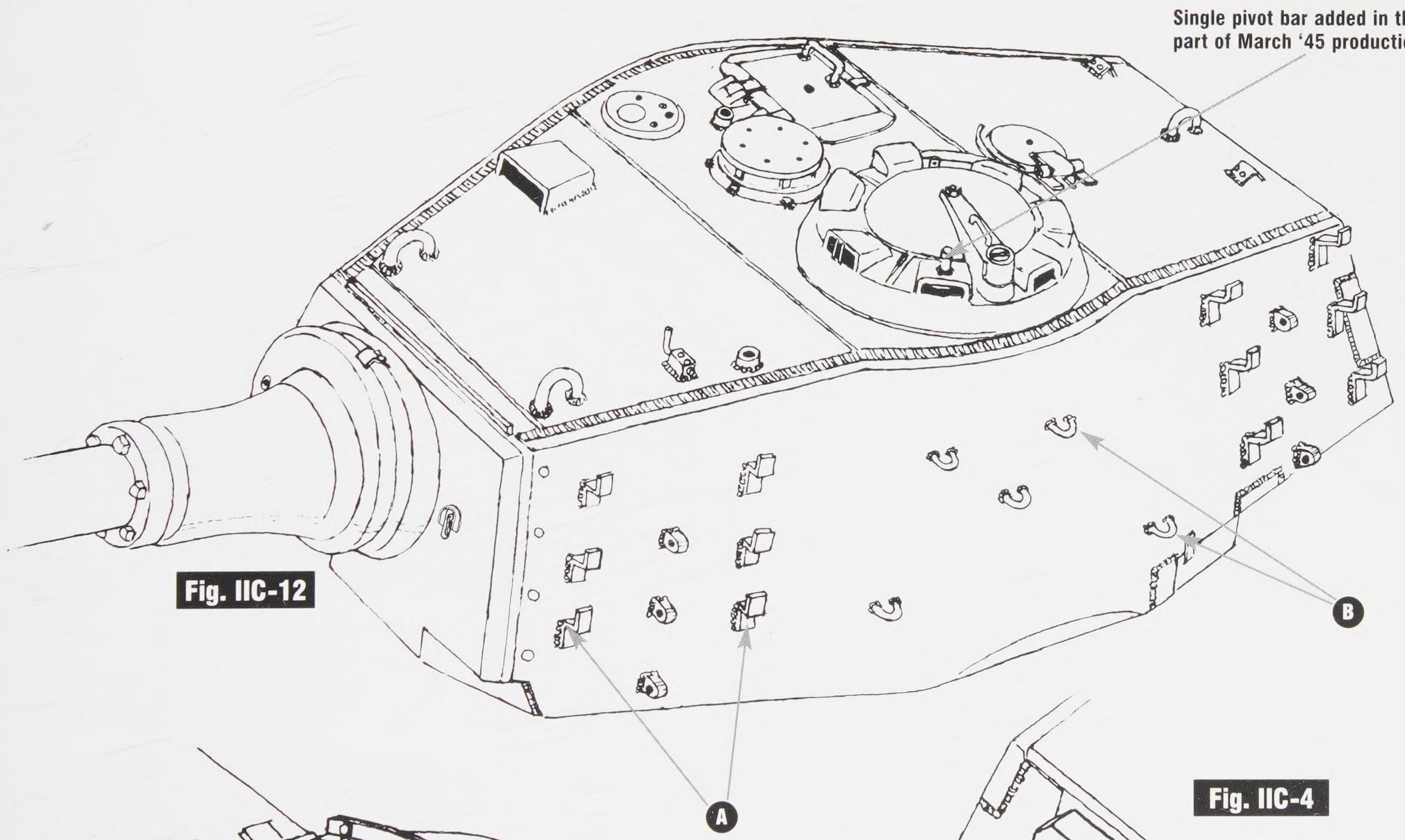


Fig. IIC-12

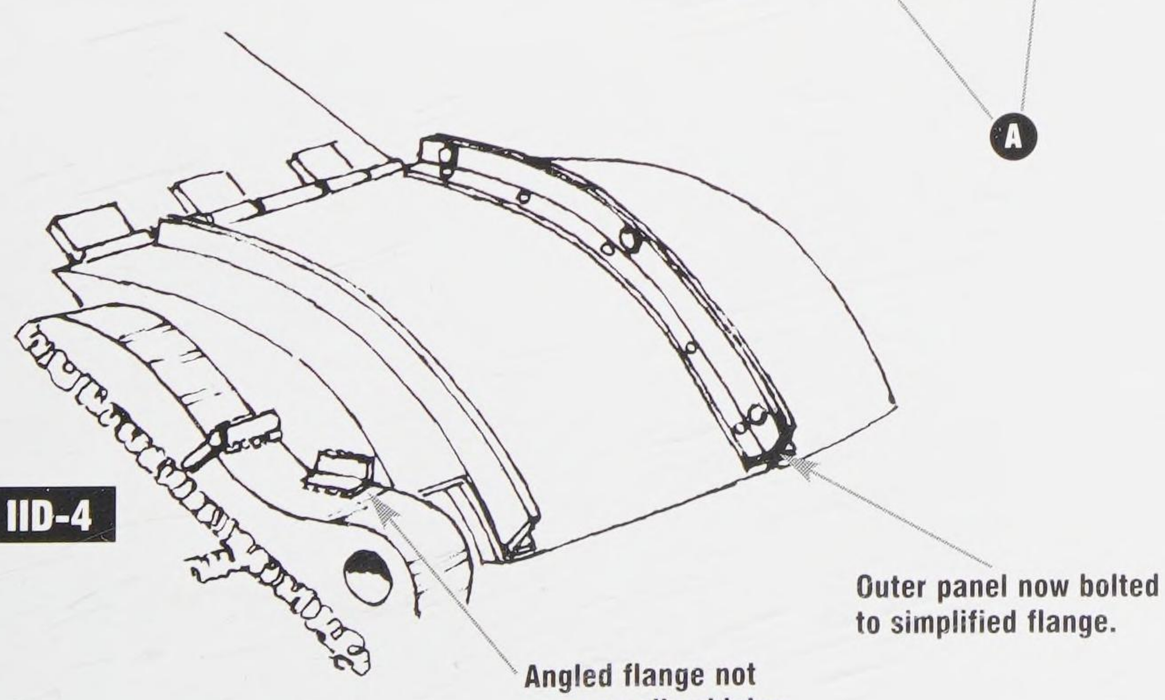


Fig. IID-4

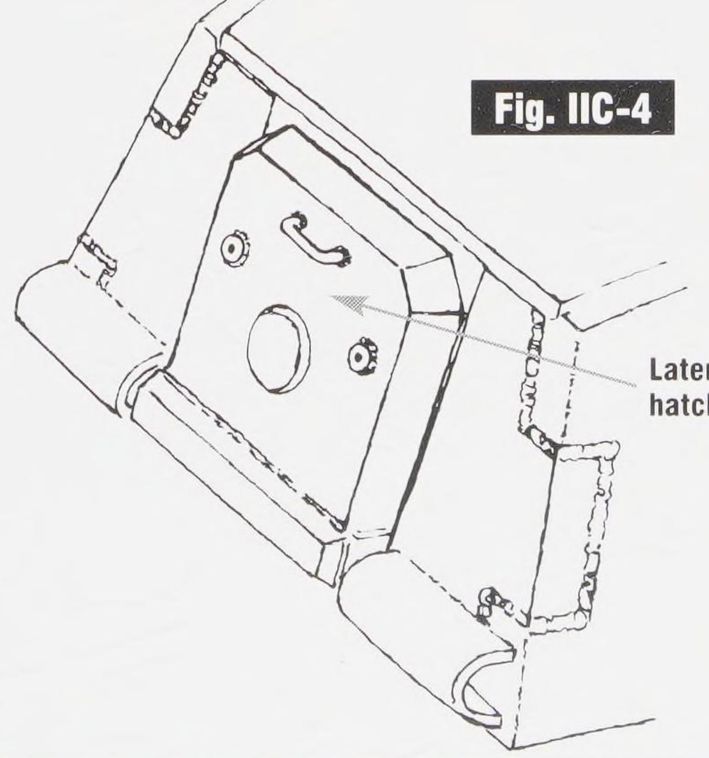
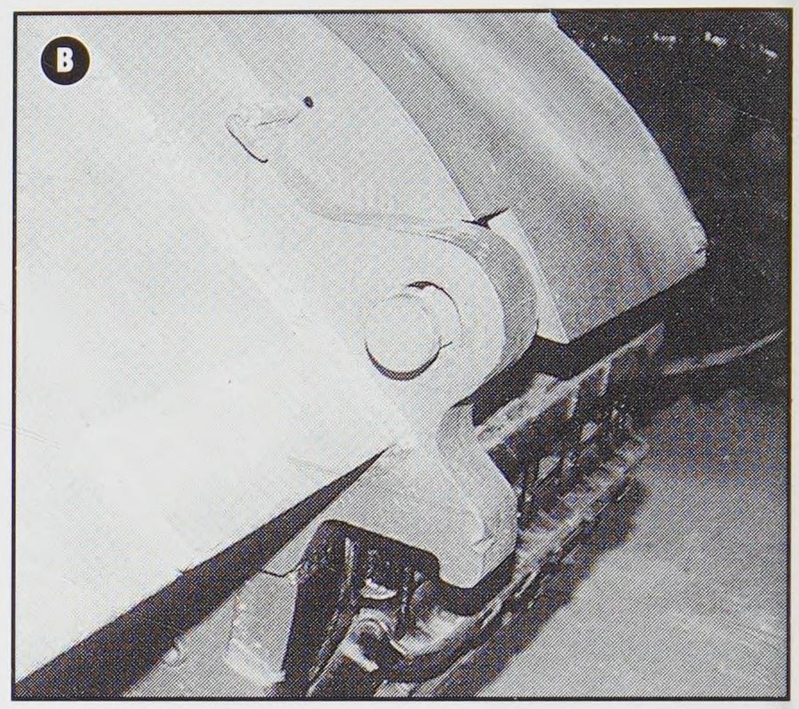
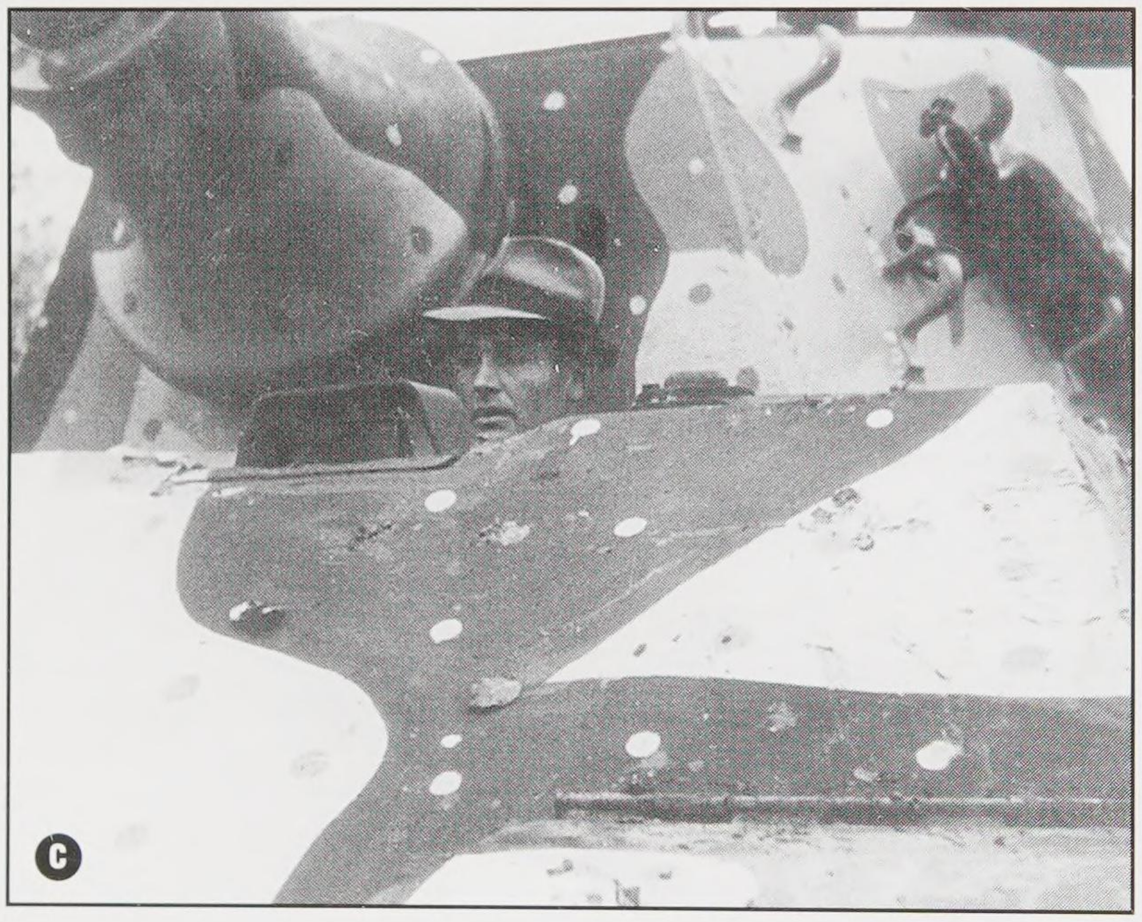
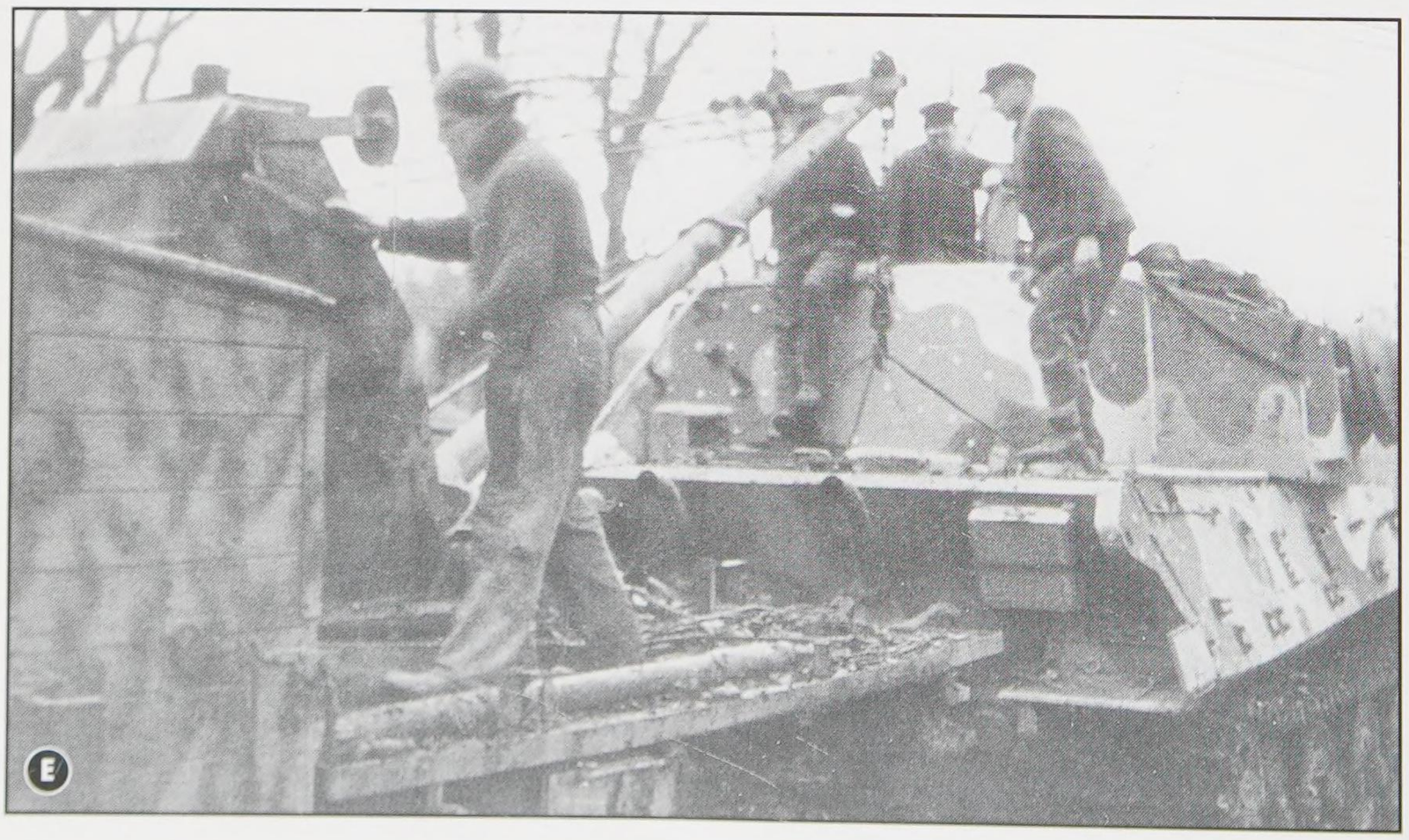


Fig. IIC-4

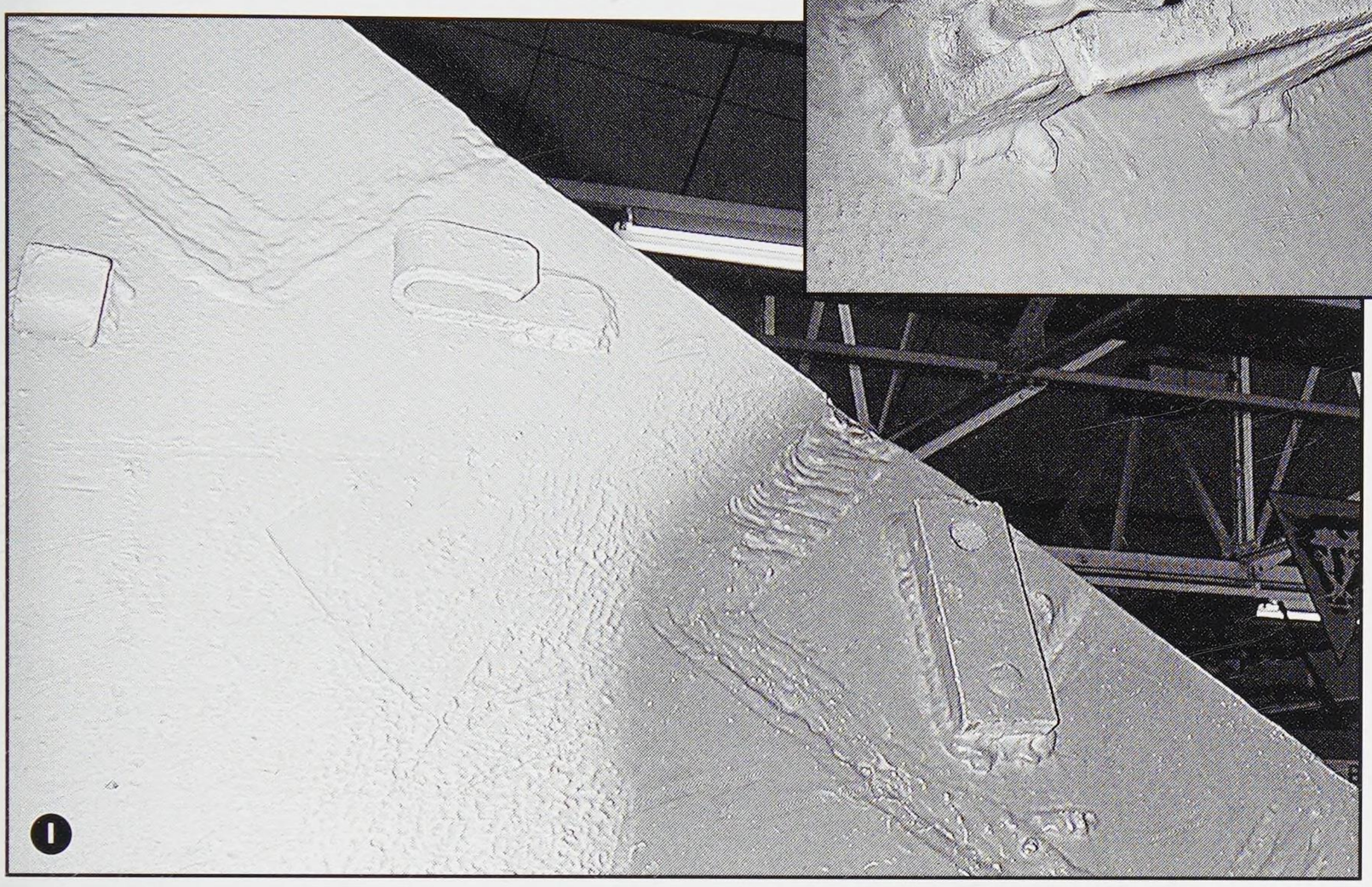
A) This photo shows a Tiger II of the s. SS PzAbt. 501 moving past a line of American prisoners during the Ardennes offensive on December 18th, 1944. It is a post October production vehicle, as indicated by the absence of the jack beneath the exhaust. Note the muted nature of the camouflage in this photo. (NARA) **B)** An excellent example of the production style front tow shackle. Compare this with photos of the later Tiger I. (TA) **C)** Another shot from the Henschel testing facility provides a close-up look at the hard line camo scheme. Nice hat! (TA) **D)** This Tiger II sits amidst a large grouping of captured German material at a Russian Army exhibition in Moscow. The chalked writing indicates several penetrations by a 57mm anti-tank gun. The tank has been completely stripped of all exterior stowage and is also missing its tracks. (TA) **E)** A Büssing-Nag 4.5-ton crane truck removes the engine compartment armor at the Henschel

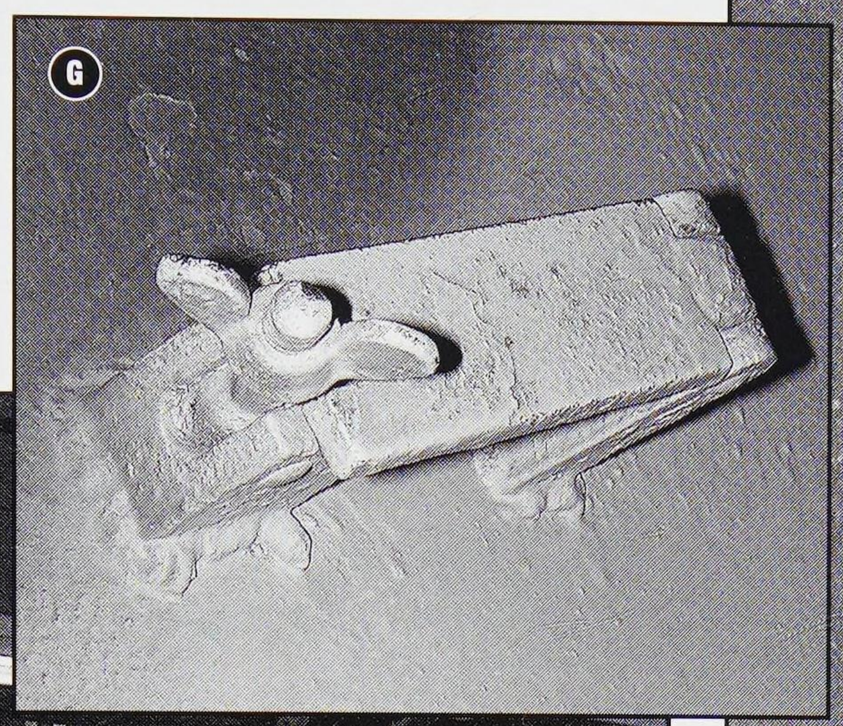


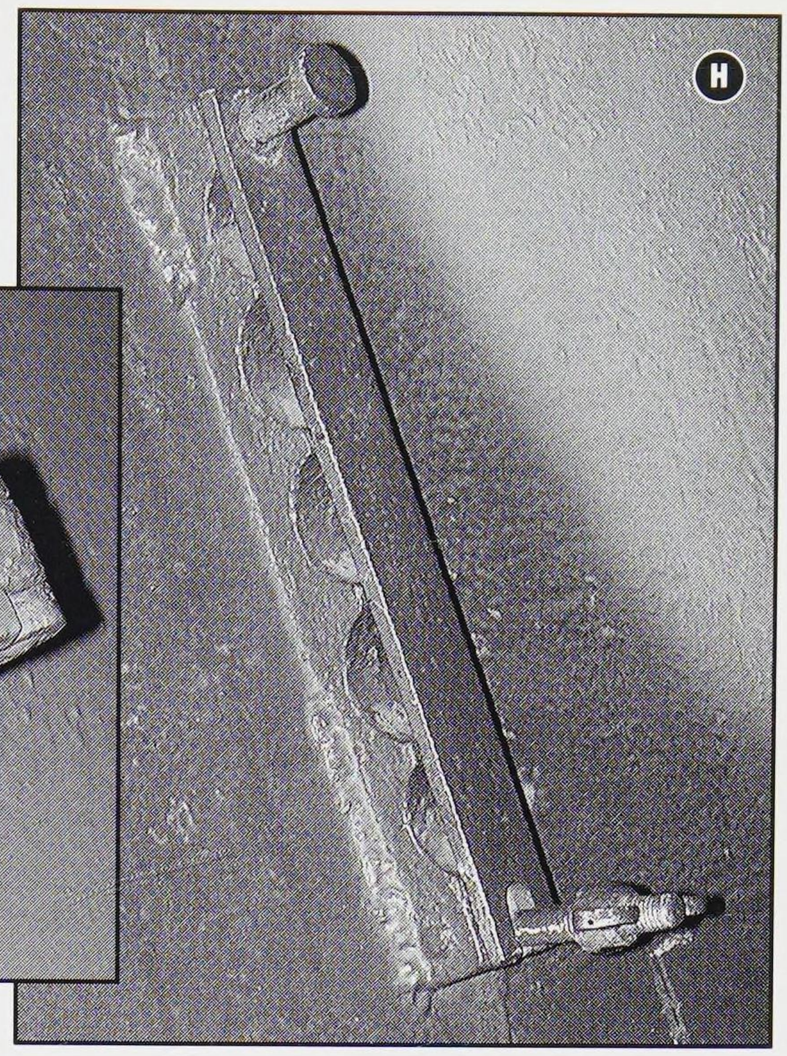


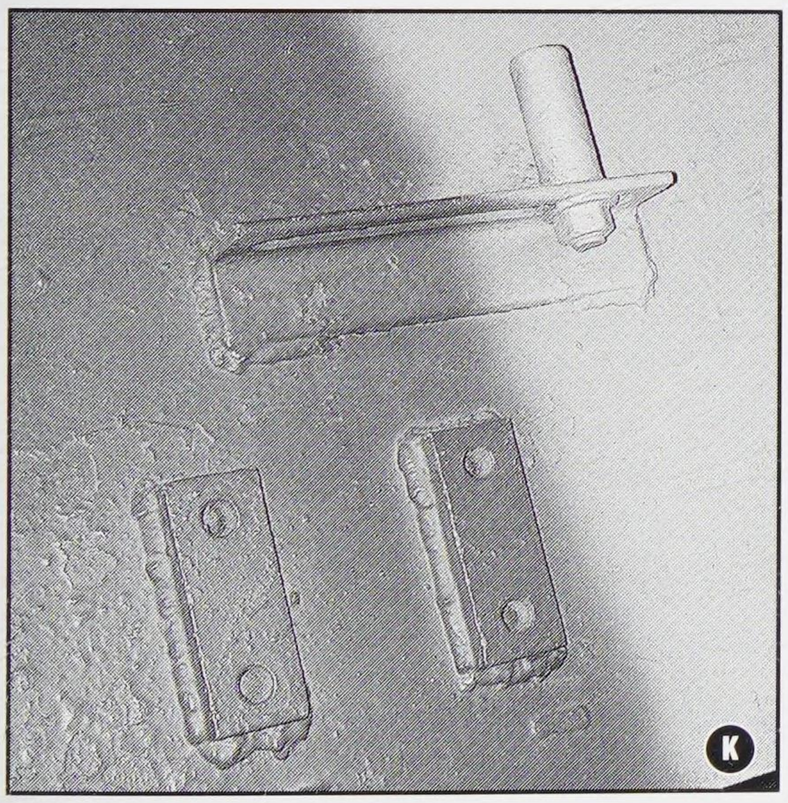


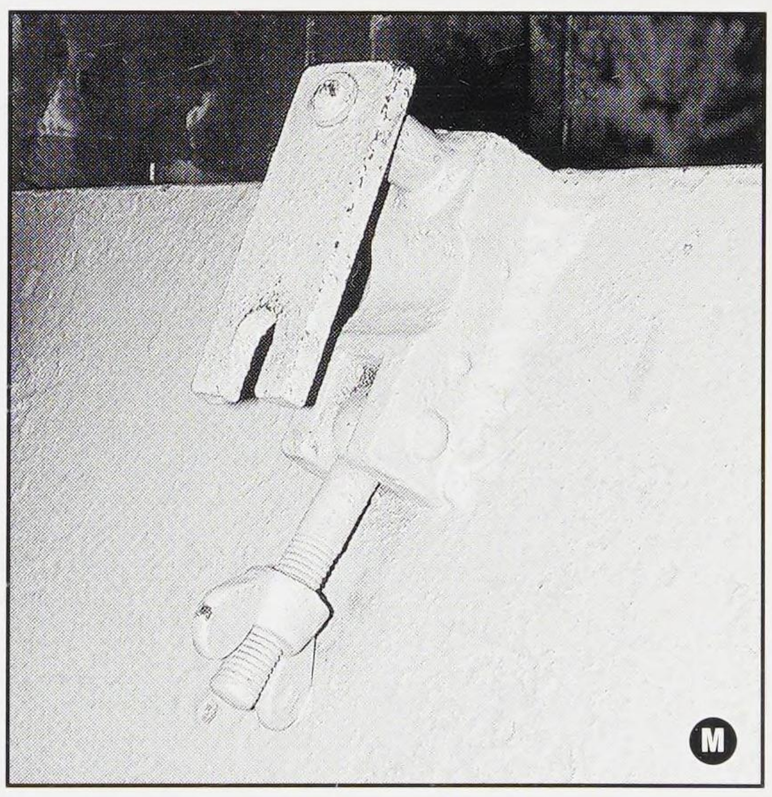
testing facility. (TA) **F)** A good close-up view of the fender attachment bolts. These were typically left in place, so that the fenders could be quickly slipped back on using the unique double hole flange on the top of the fender panel. (TA) **G)** The majority of the tow cable and track cable hardware on the Tiger II was identical to that used on the Tiger I. This is one of the forward two cable head retainers. **H)** One of two of the side cable guides that also doubled as stowage for the gun cleaning rods. Note the forged cap on the retaining bolt to prevent the free-swinging bar from being lost. **I)** Two of the track cable hooks are seen here, along with the general texture of the hull and the interlocking plate detail. **J)** This is the end cap for the wrecking bar stowed on the left side of the hull. The forward portion of the bar was retained by the standard German "cam-clasp." **K)** The adjusting bar and bracket for the track cable on the right side of the hull. **L)** The second, stationary mount for the track cables. **M)** Again, the standard Tiger I/II track cable-retaining bracket. **N)** Another still from the September 1944 Paderborn 503 parade sequence showing a pre-August '44 vehicle with some unique rear stowage. (TA) **O)** A close-up of a sPzAbt. 503 Tiger II on the streets of Budapest in October of 1944. It is a classic late summer '44 vehicle with a full complement of stowage, fenders and a factory-applied coat of Zimmerit. (BA)

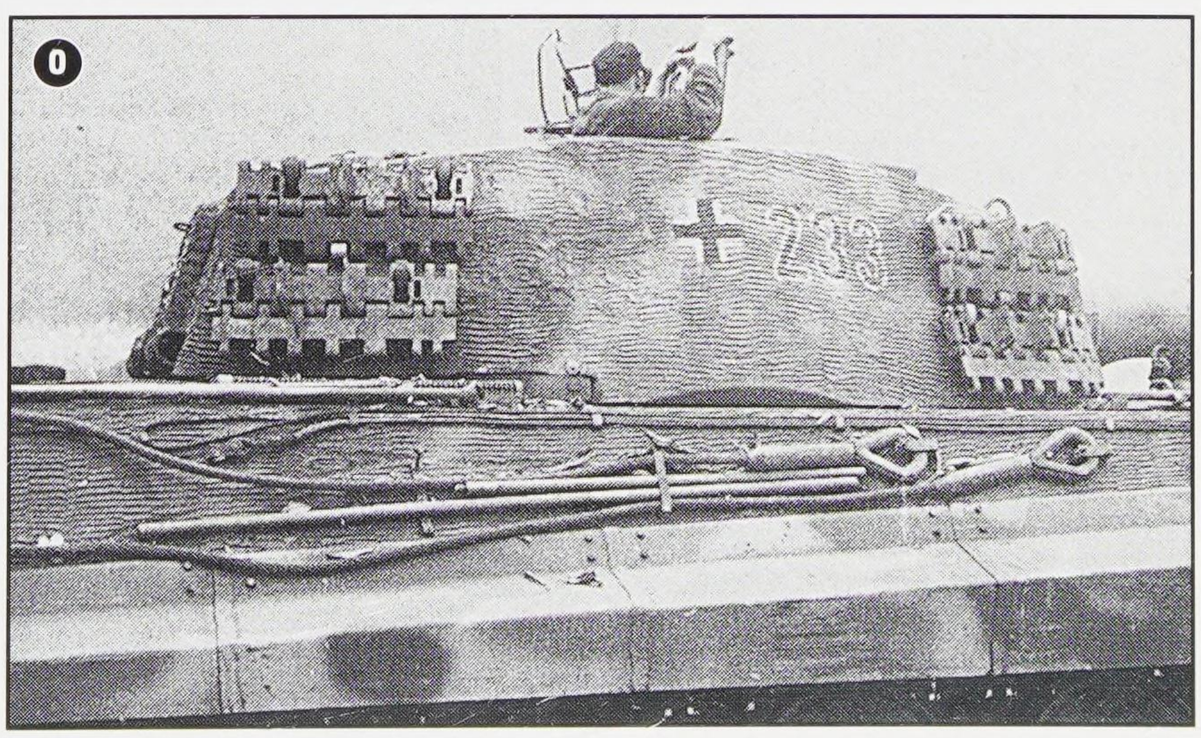


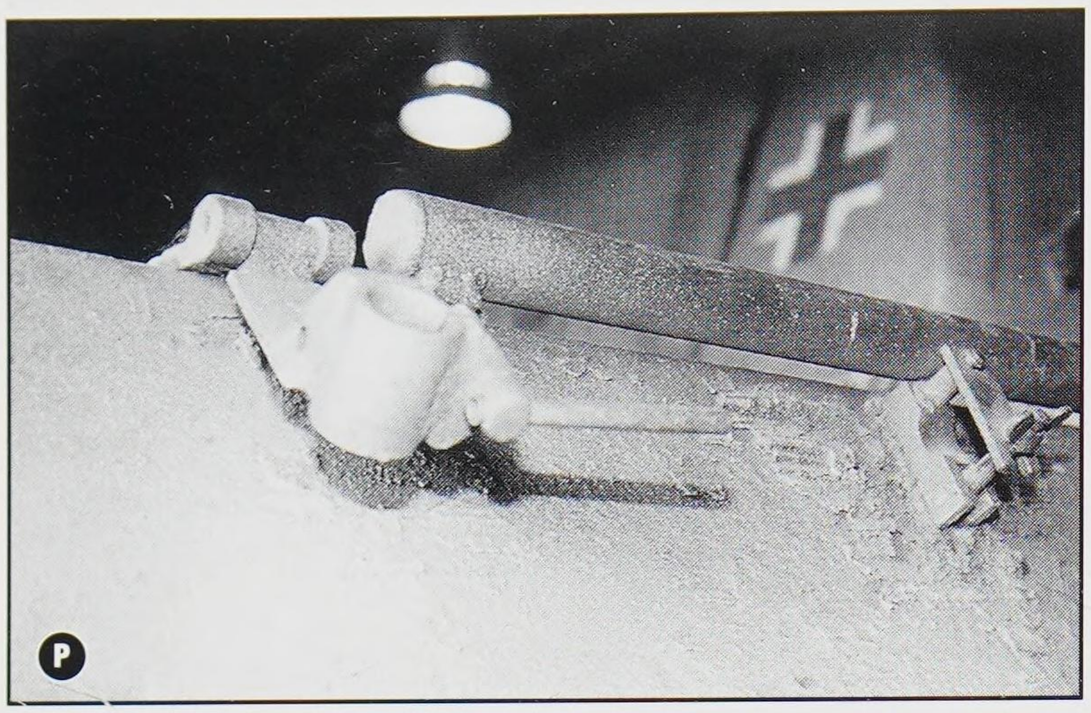












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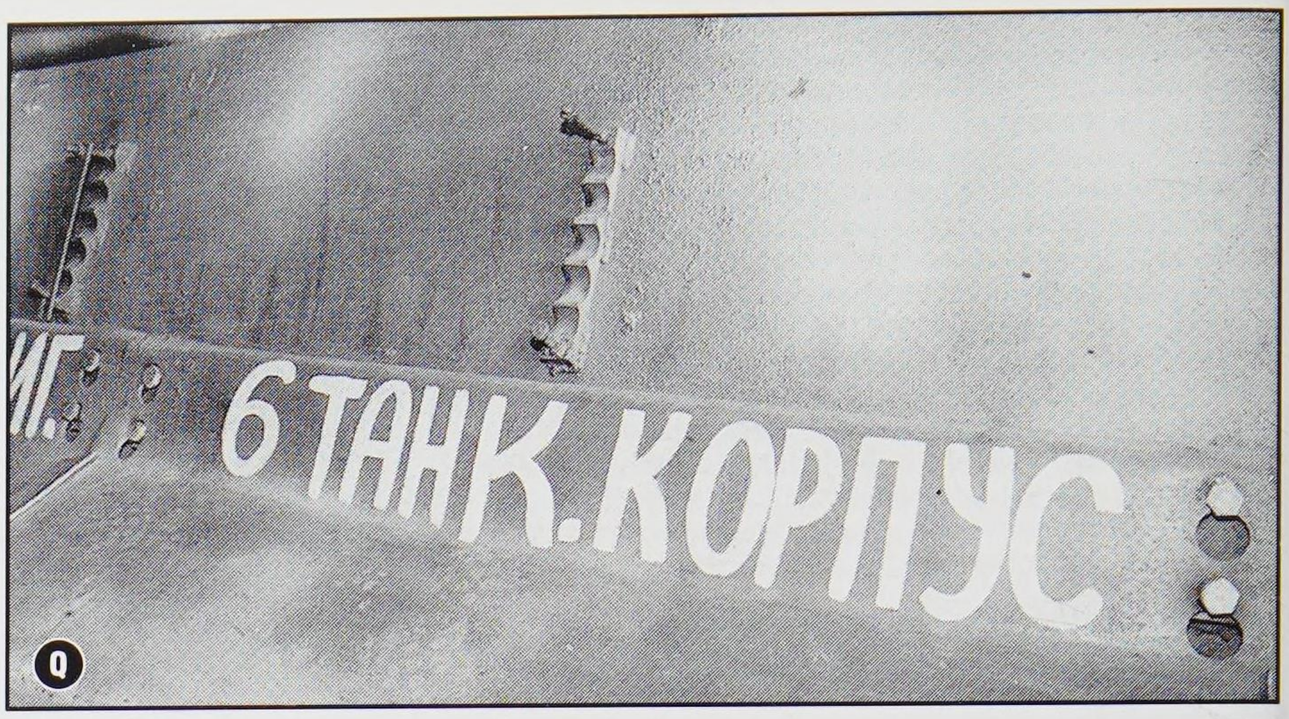

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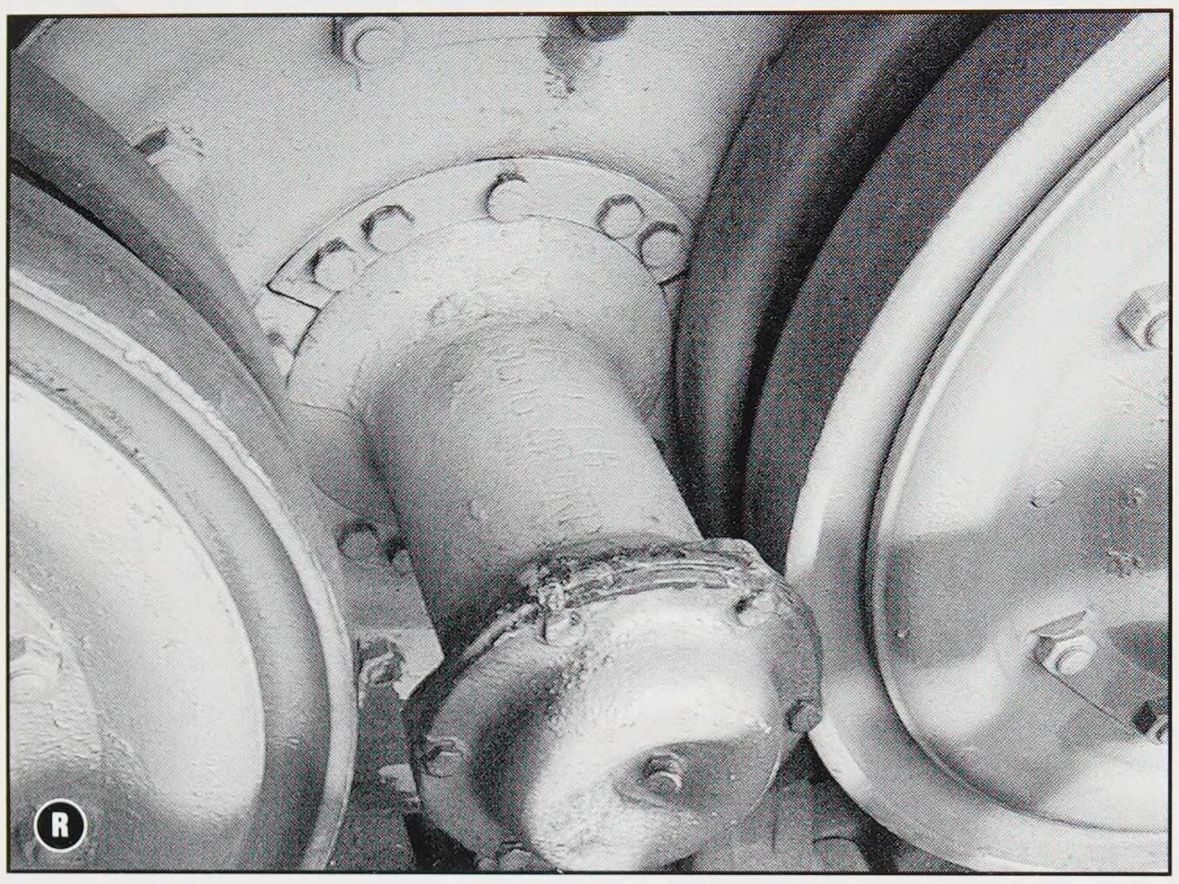

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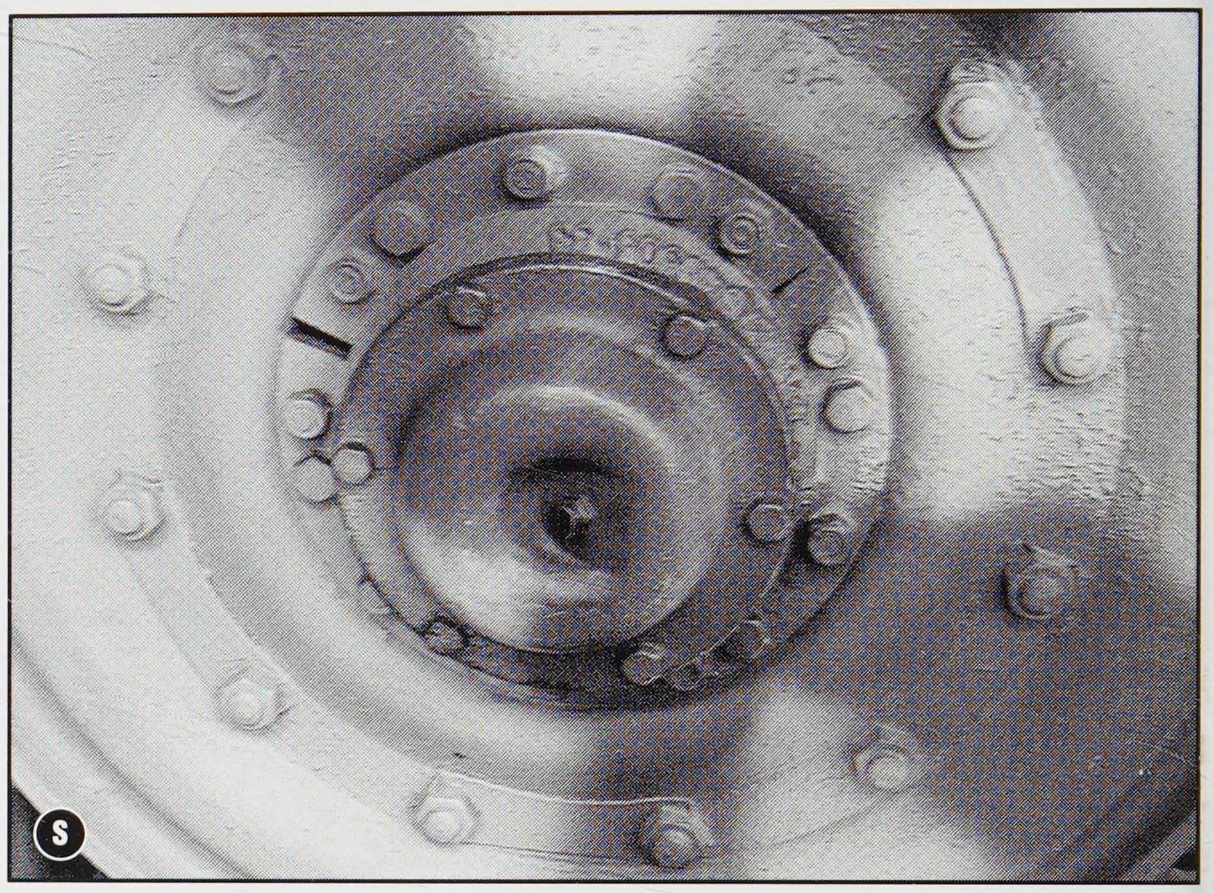
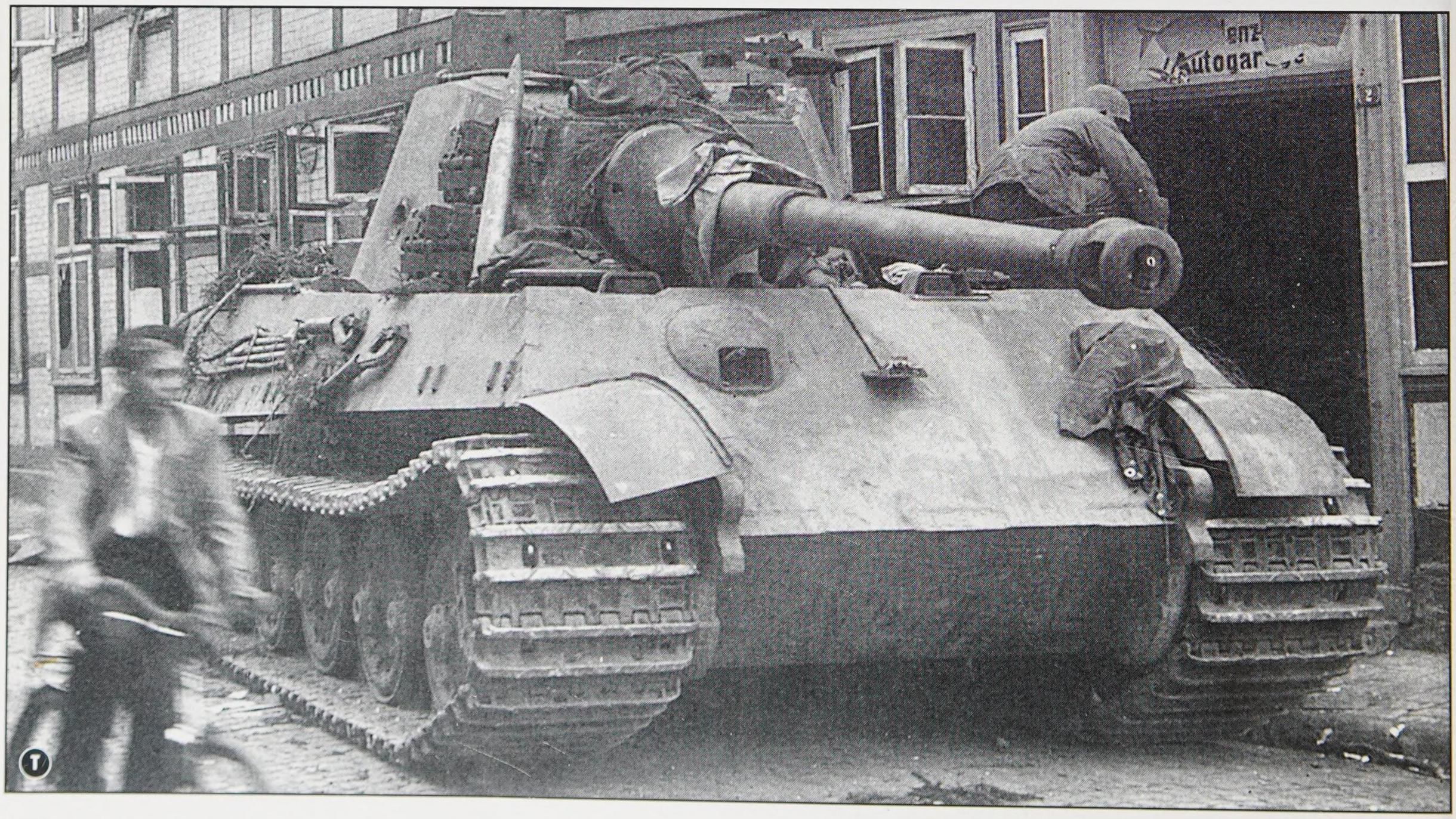


S

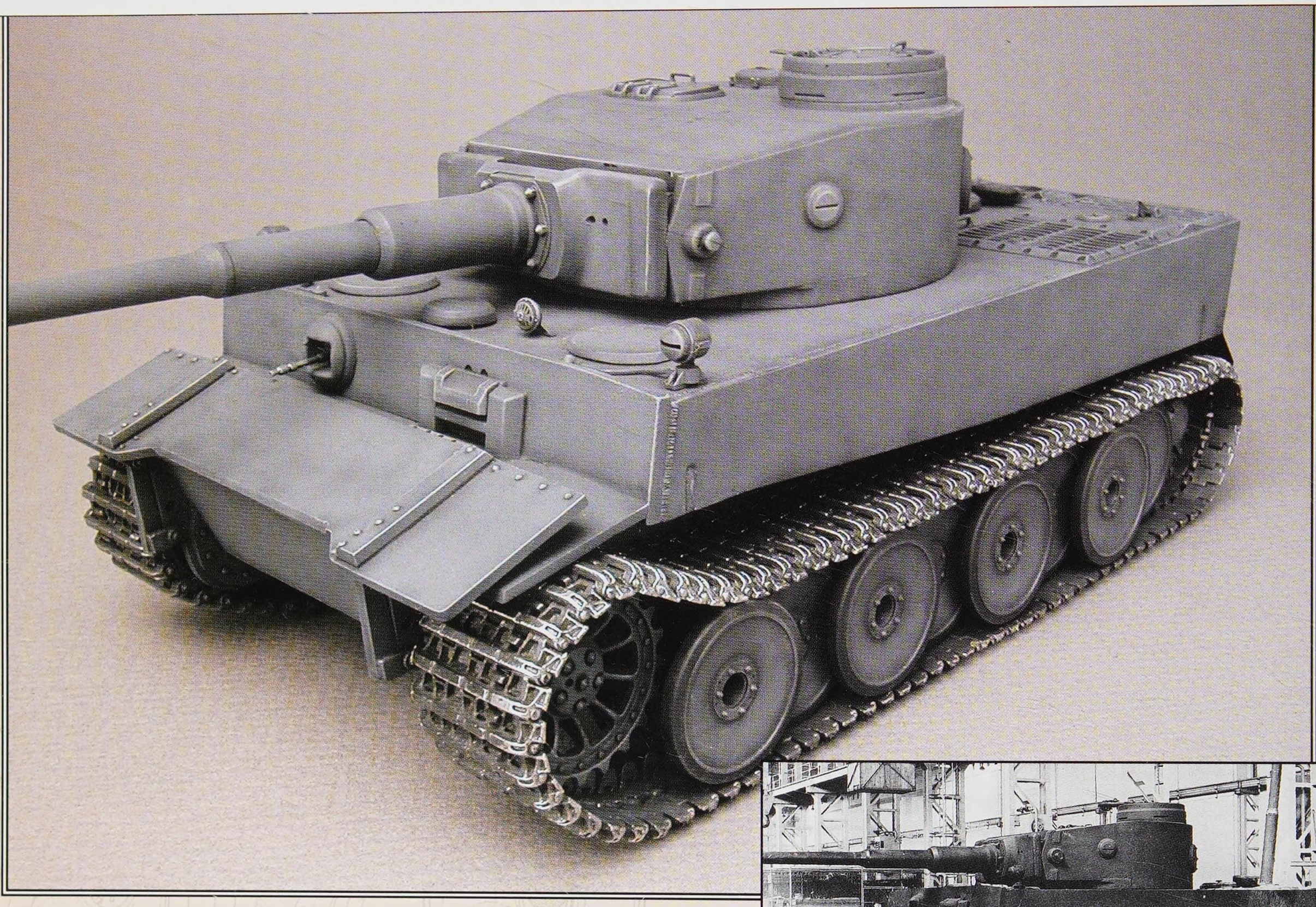
P) This is the elusive mount for the star antenna used on both the Befehlswagen Tiger I and Tiger II. It is seen here on the Kubinka Tiger II Befehlswagen. Also see Fig. IE-6 in the Tiger I section. (TA) **Q)** The double hole flange of the Tiger II's fender panel can clearly been seen here. By leaving the bolts slightly loose, the fender panels could be quickly slipped over them. **R)** The second, fourth, sixth and eighth roadwheel on either side of the Tiger II had this elongated hub. **S)** The first, third, fifth, seventh and ninth wheel used this flush mounted hub design. **T)** This March production Tiger II is undoubtedly one of the 11 new tanks delivered to the sPzAbt. 507 on March 22, 1945. It is said that this tank was the last remaining Tiger II in the unit when it was abandoned due to track damage in the German city of Osterode on April 11, 1945. This photo was taken by an U.S. Army signal Corps photographer in front of the Hotel Kaiserhof on April 14, 1945. Also see the photo on page 20. (NARA)

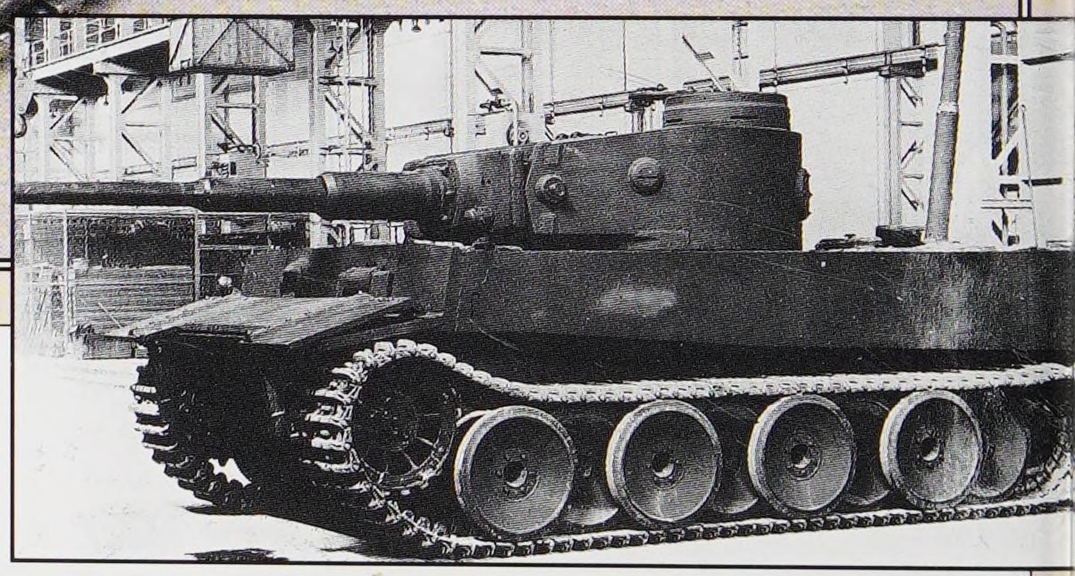


T

S a y
hello to my little modeling
section! The first things you're going to see
here are the finished models. There are 13 of them,
running in chronological order from the Tiger I prototype
to the June 1944 production. The Tiger II's run from the Tiger II
prototype right to the end—the March 1945 production. Each of the
models gets a two-page spread and the accompanying descriptions deal
primarily with the schemes of the model, their units and what actual vehi-
cle they are based on. I should warn you that sometimes these correlations
are a little hazy. I did bend the rules here and there to get the models looking the
way I wanted them to. I have also not added very much, if any, external stowage
(except in one case). I did this so as not to obscure any of the details I worked so
hard to render. After the color shots of the models are out of the way, I cover my
painting and weathering techniques, a few of the repetitive building and detailing
steps, along with some stuff on zimmerit and tools. Following the color section is
my massive construction diary. I have tried to be as thorough as possible here,
with virtually every detail I could think of covered. Of course, this is just one per-
son's interpretation of what to do. And, my intent was to illustrate what could
be done, not what should be done. If my efforts can be slightly inspirational,
then I'm happy. Also bear in mind that towards the end of the construc-
tion section, certain details get spread out amongst several models.
This was done to be more efficient with the available space and
save the reader from excessive repetition. Most of the prod-
ucts that I have used are called out in these building
sections, but if I missed anything, you'll find it
described in the resources section.
Get on with it!

Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. V1 at the Henschel factory, spring 1942



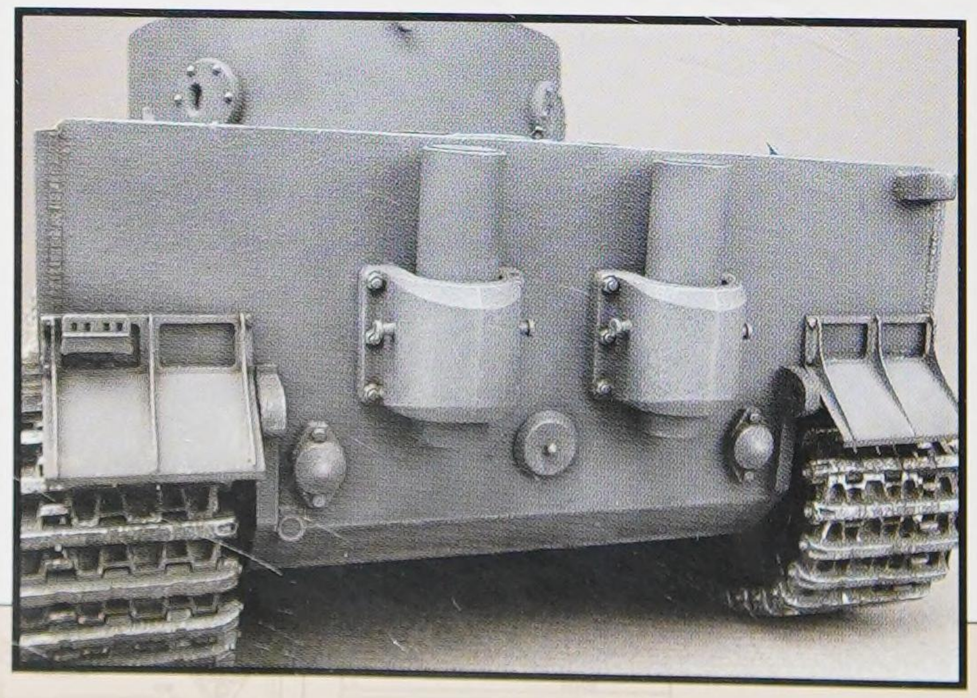


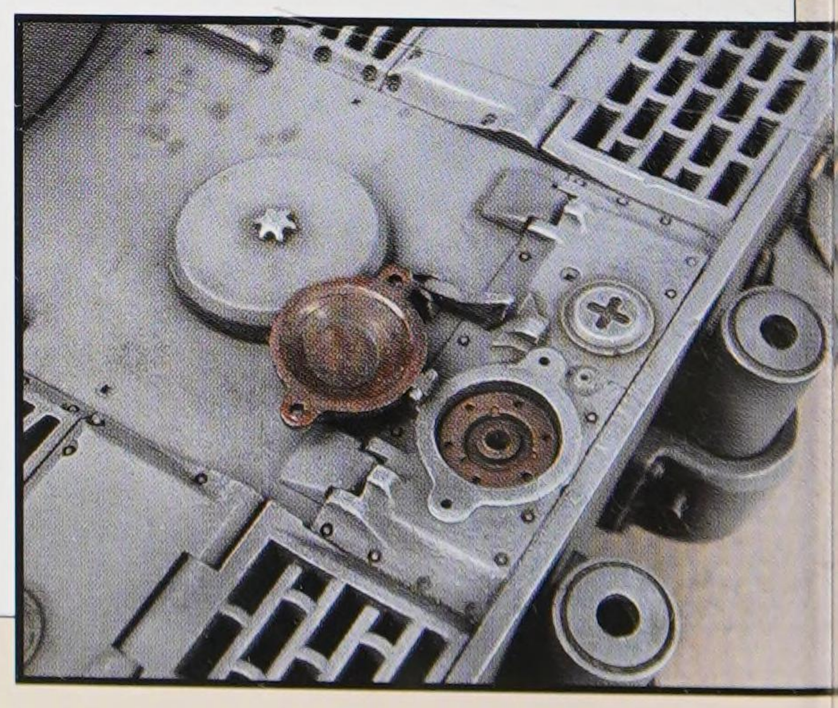
For my first trick, I will produce the Tiger I prototype out of thin air. Well, how about thin ink? There are only a few photos of this, the grand pappy of all Tigers. The two that show it intact were presumably both taken at the Henschel factory not long after its completion. This would have been in the spring of 1942 and I have no doubt that the tank was painted overall Dunkelgrau. It doesn't have much of a weathered look, but anything in a factory for long doesn't stay very clean. Jentz's book on the Tiger I contains two additional photos showing the V1 after it was confiscated by Wa Pruef 6 and while it was under going automotive testing without its turret. There are no markings discernable in any of the photos, which is interesting because the Tiger II prototype did have a few small numbers. Presumably, this tank remained at the testing facilities for the duration of the war. I wonder if it was ever made combat ready?

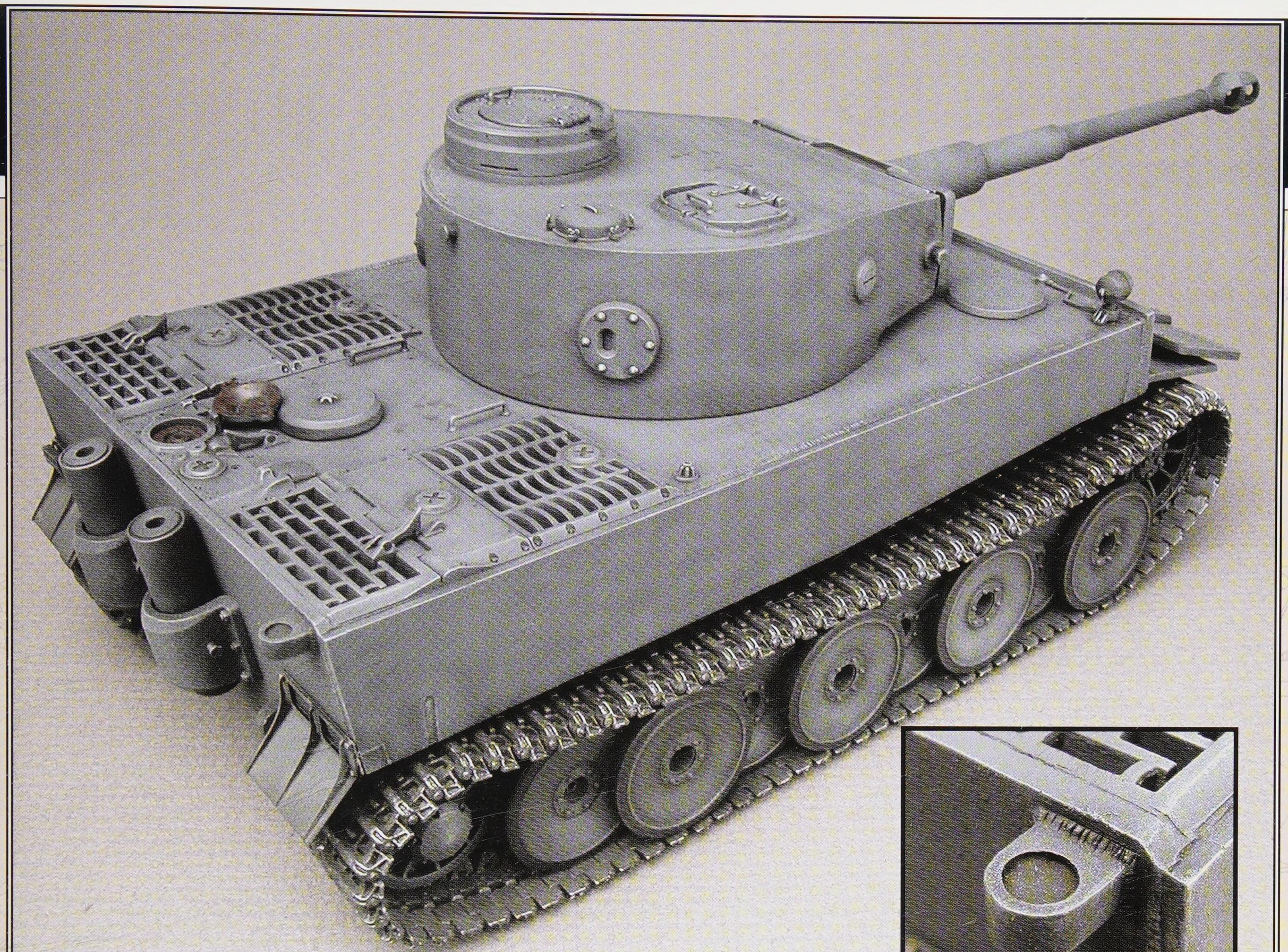
To render this model, I used Tamiya XF-63 straight from the bottle, then gave it several light over sprays of a lightened version. Weathering was limited to general surface dirt and grime. Just to add a touch of color, I painted the open snorkel cap and the area underneath with Tamiya Hull Red, XF-9.

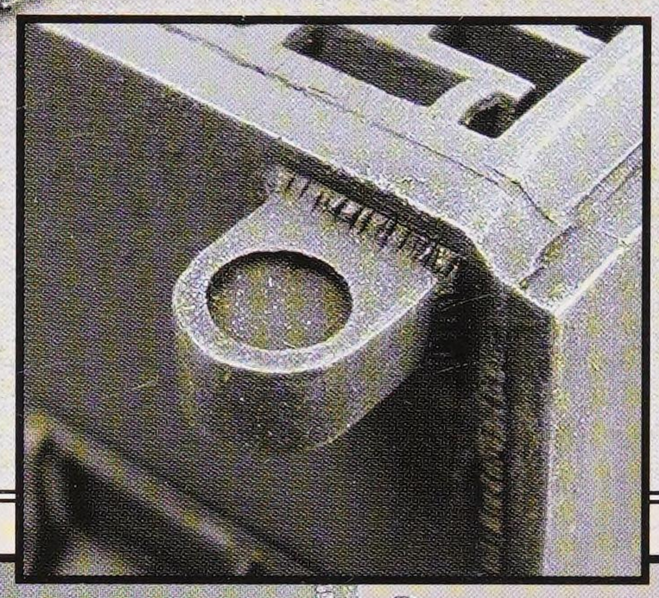
The tracks are Friul and were painted, rather than chemically weathered. I like to use a "track mixture" made from Flat Black, XF-1, Flat Aluminum, XF-16 and Hull Red, XF-9. This is mixed in a ratio of about 2:1:1. Once this has cured overnight, the tracks are given a heavy dry brush of Polly-Scale Pewter.

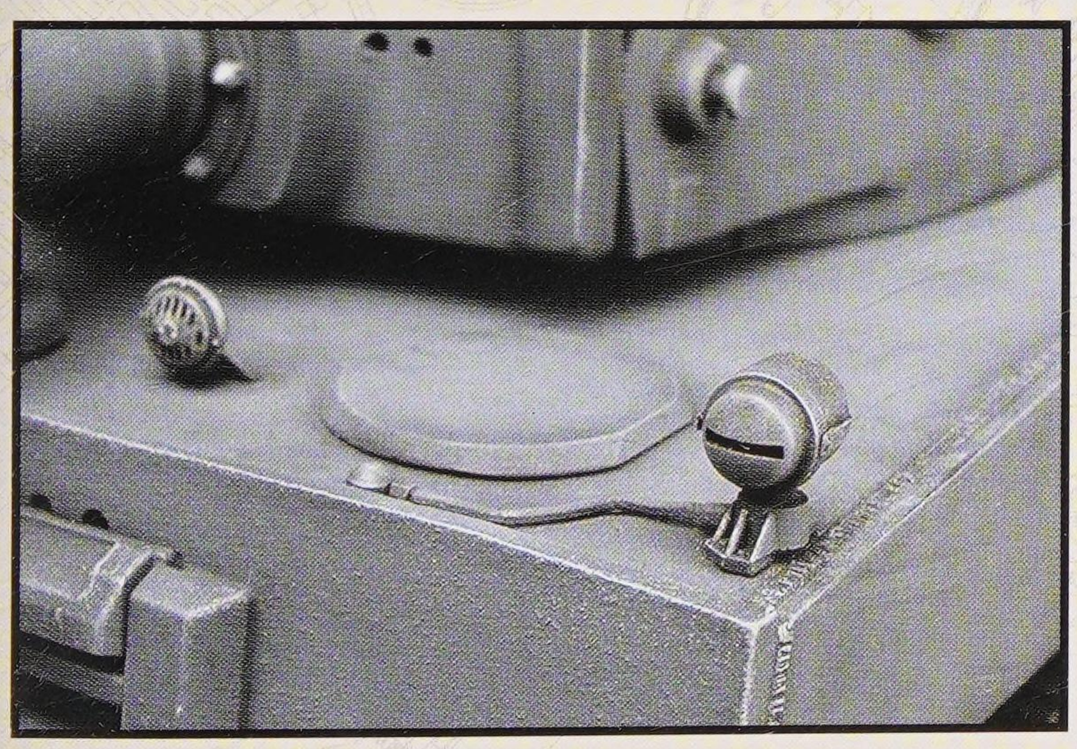
What not to do: My major flub on this model was leaving the latches for the rear hull deck grates. These were not present on the prototype. They didn't appear until the August 1942 production.

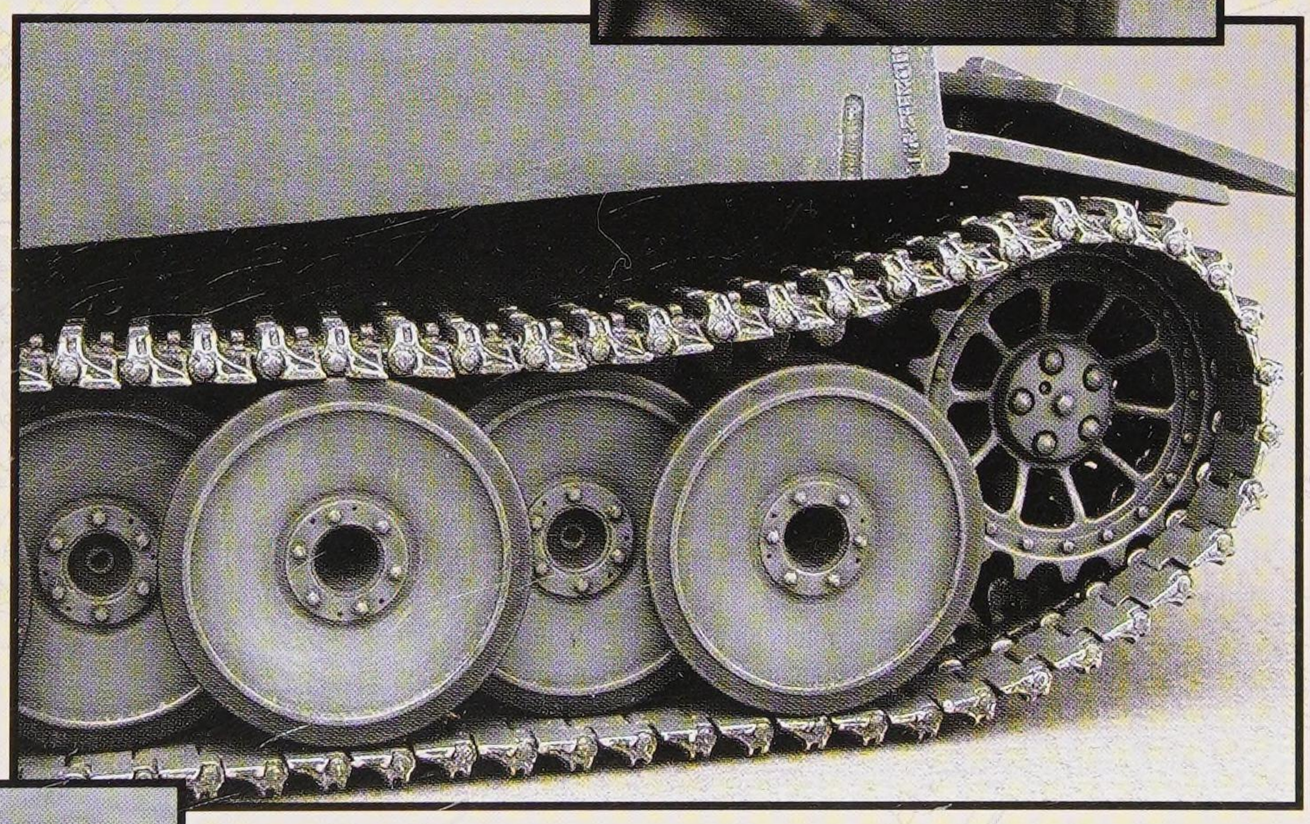


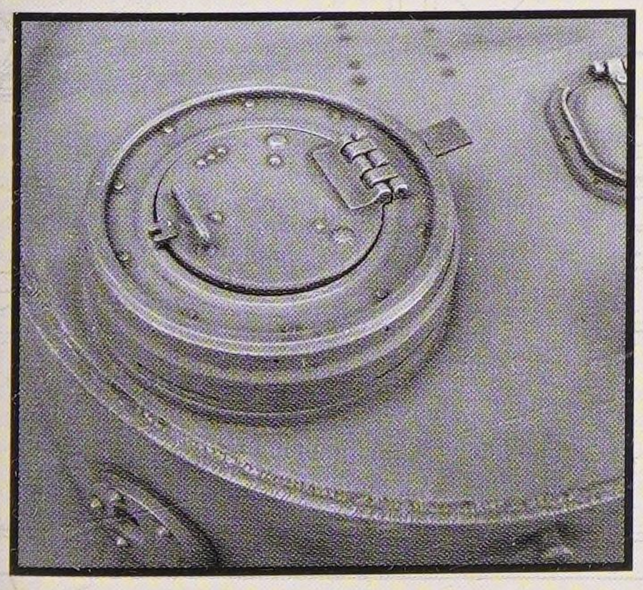


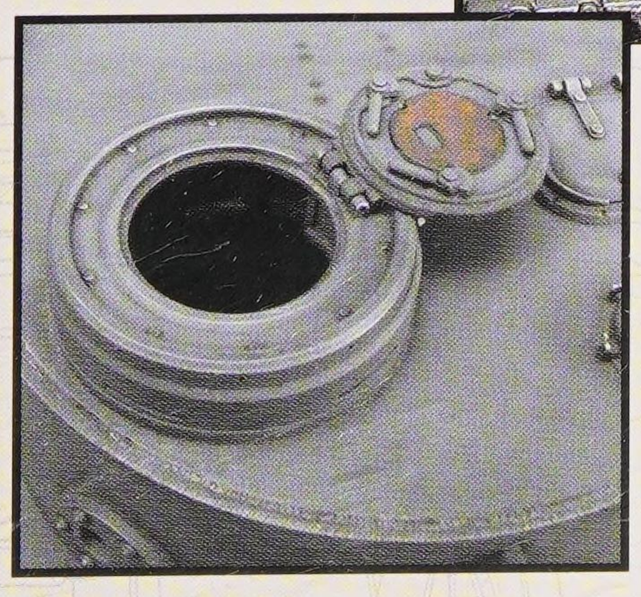


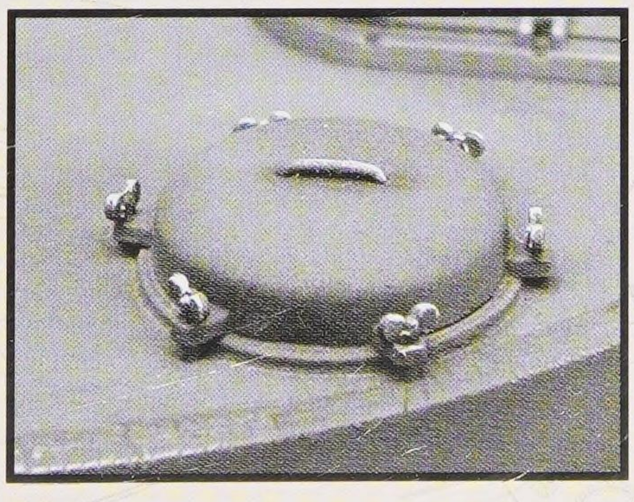




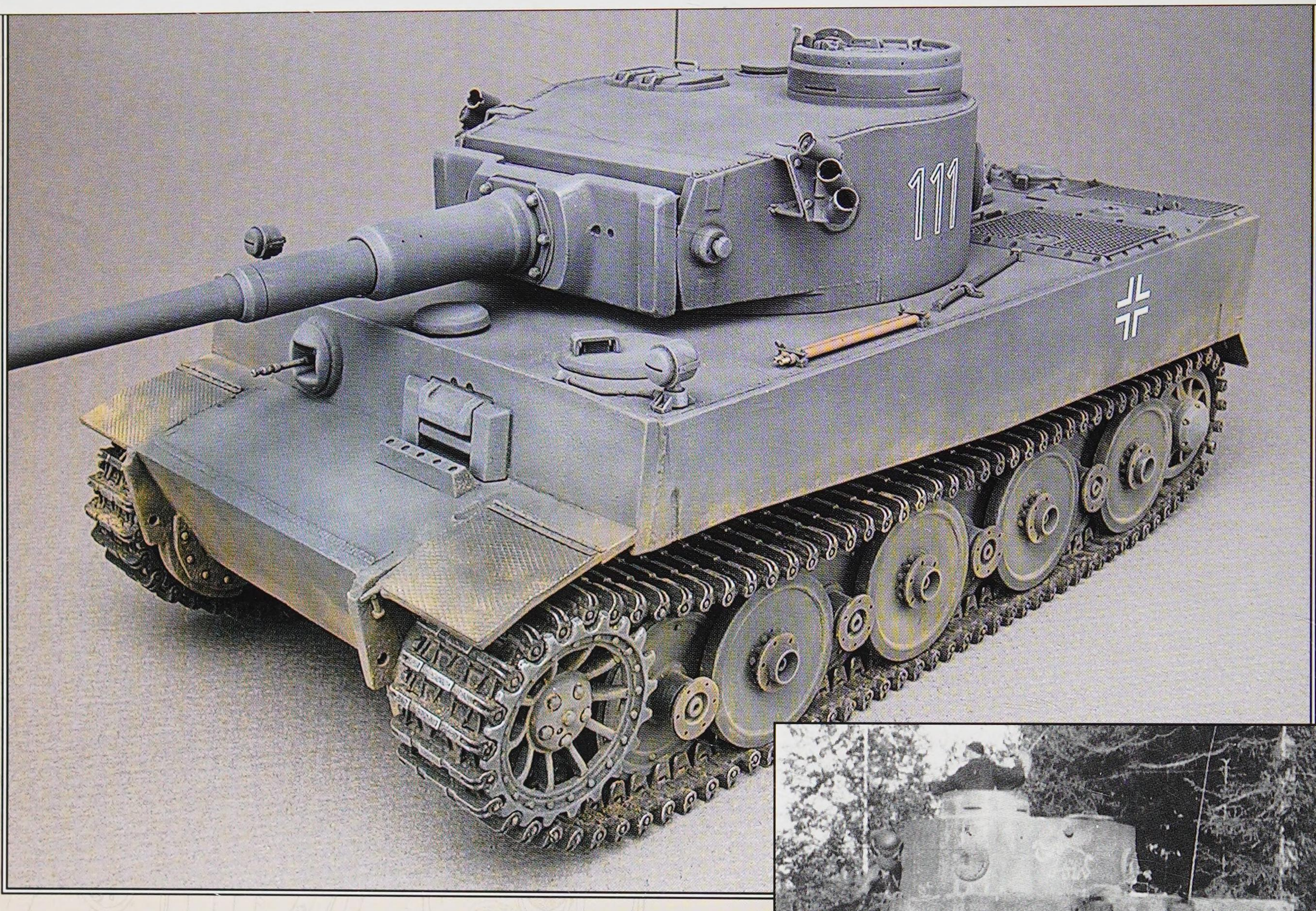


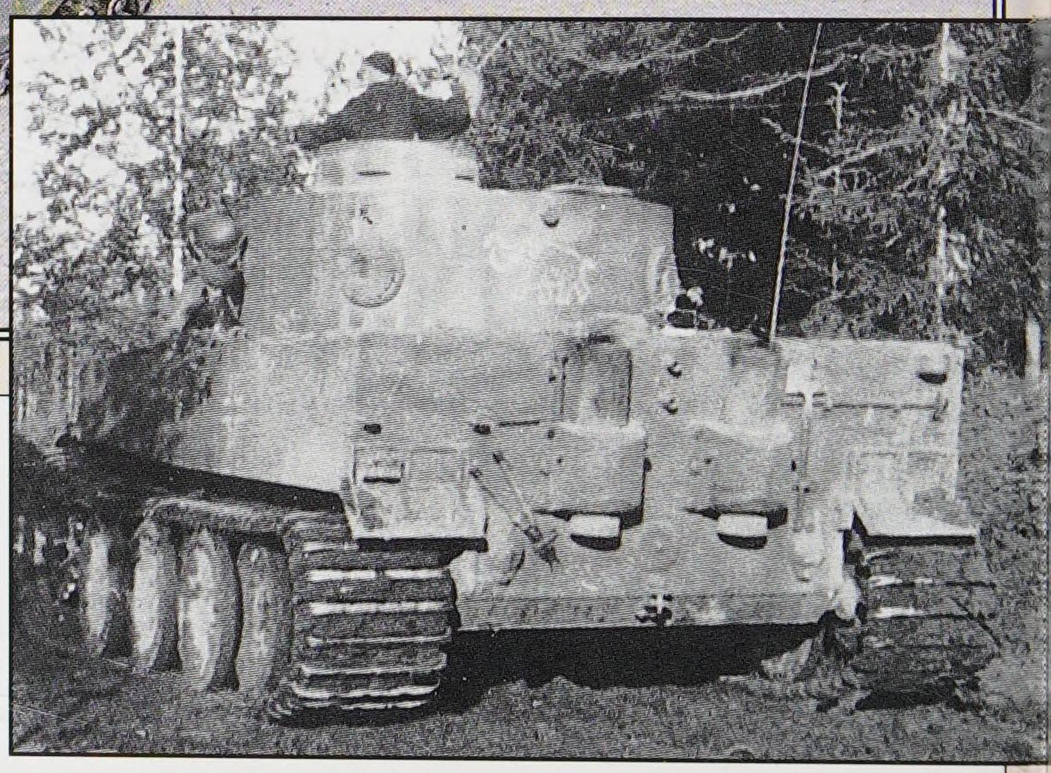






Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. 250008 of the 1.Kompanie, s.PzAbt. 502, fall 1942



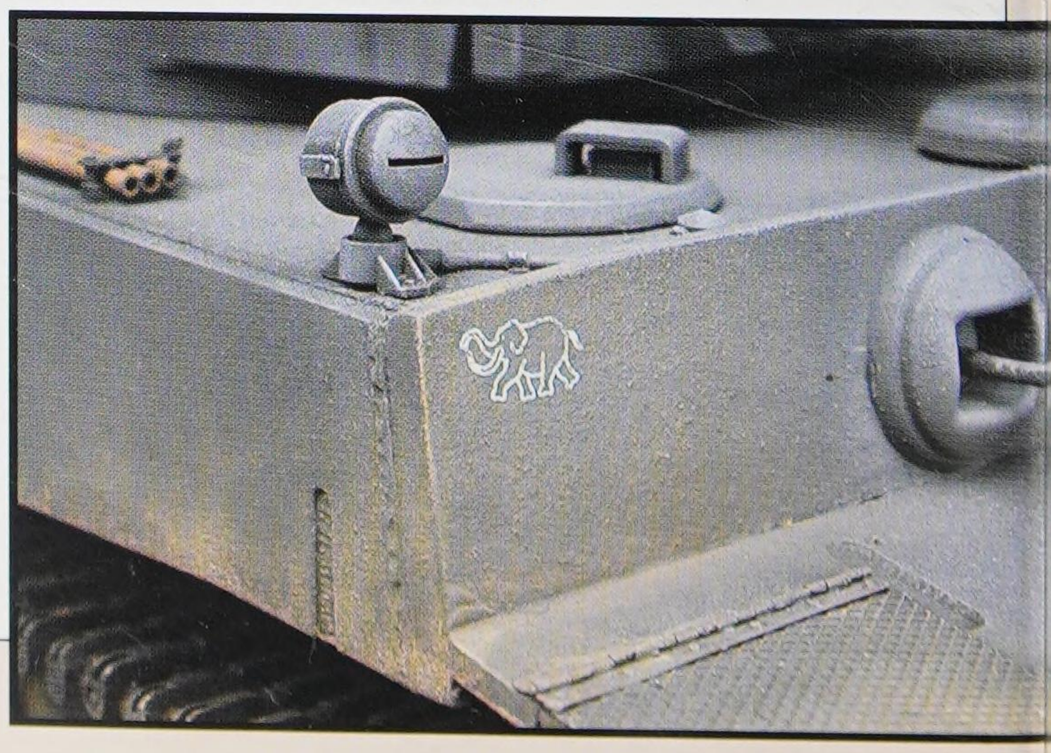


The very first unit to get the Tiger I into combat was the s.PzAbt. 502. They received their Tigers in late August of 1942, just as "Operation Blue," the big summer offensive was winding down. The 502 fought on the eastern front for most of the war and one of its most successful alumni was Otto Carius. Their Tiger I's were initially deployed in a rather bone-headed fashion and didn't do too well. In one of their first actions (on September 22nd , in support of the 170th ID), southeast of Leningrad, one tank had to be abandoned. The Tiger was considered super secret when first introduced and this little mistake cost the battalion commander his job (the tank was later blown up).

The tank that I chose to render is number 111 and my inspiration was a photo that appears in *Tigers in Combat I.* This photo shows the back end of the tank and reveals many interesting details. The first is the very unusual tool arrangement on the rear hull and the second is the meticulously drawn unit symbol, a big 'ol mammoth. This has been hand drawn on the back of the turret. In addition to the mammoth, the Tiger also sports white outline tactical numbers. The tank was a very early production model, rolling off the factory floor in August. This tank was later photographed on January 24th when it was bogged down in a brook. Apparently, it took three days to yank it out. At this time, the tank was sporting a Panzer III style stowage bin. *Tigers in Combat I* also contains a few very interesting pictures of this unit's other Tigers later that winter. They are white-washed over all, but wedges of the dark gray are still showing through.

I used the same methods to paint this model as I used on the previous one. I weathered it a bit more as it was a fielded vehicle, but again, not too much because I was rendered it early in its combat career. I am depicting it during a rail move accomplished on September 30th, 1942.

The tracks are ModelKasten, again painted as described in the previous section. Prior to drybrushing the tracks, I did give them a very light wash of my mud mixture (see later section). The markings come from the Archer Tiger Mix #2, 35156. I still think that big "Mammut" symbol is cool looking.



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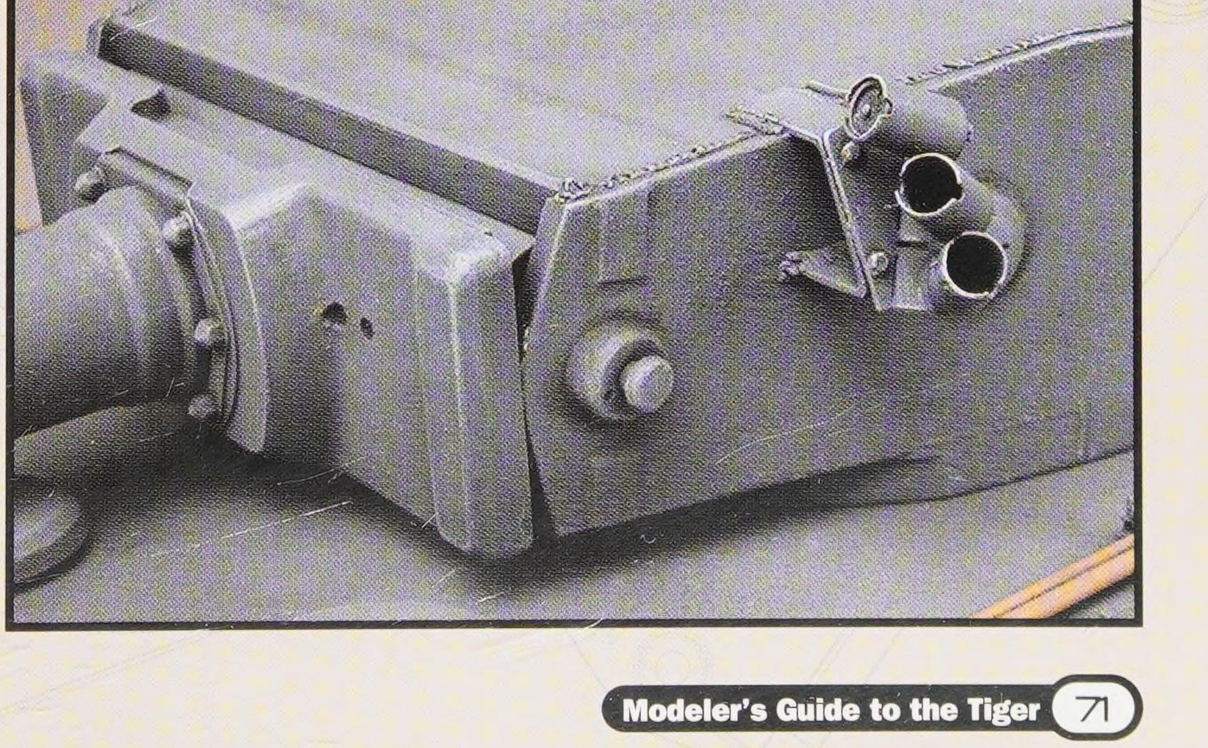

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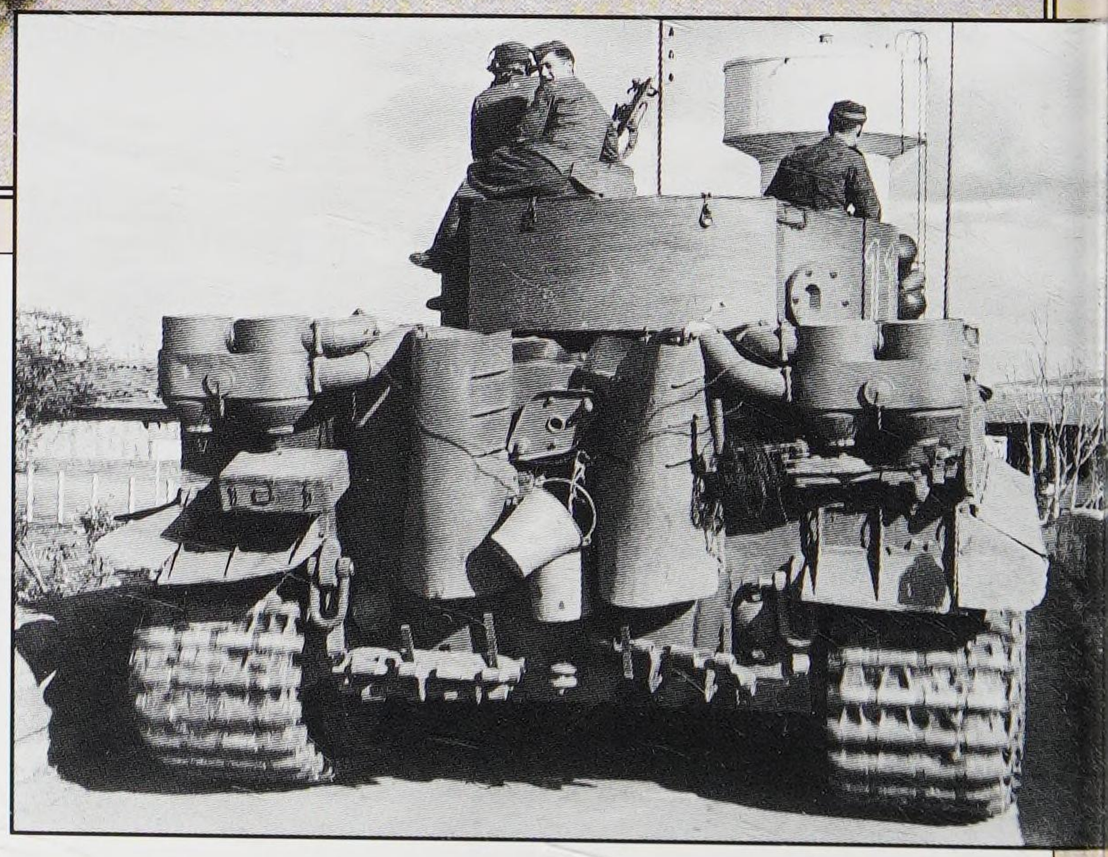
Panzerkampfwagen VI Ausf. H1, Fgst. Nr. 250021 of the 7.Kompanie, 7.Pzr.Reg, 10.Pzr.Div., early 1943



Another of the Tiger I's initial deployments was with the s.PzAbt. 501. They took delivery of their Tigers in Italy, prior to being deployed on the other side of the Mediterranean in Tunisia. It was within the divisional workshops in Italy that these tanks received all the distinctive gear that marked them as "Tunisian" Tigers.

The 501 was pretty much destroyed in Tunisia, but was reconstituted in September of 1943 and fought the remainder of the war on the eastern front.

I had a bit of a quandary on my hands when I set out to do this model. I really wanted to do a very early vehicle (October production) with all of the unit made modifications, such as the fender flaps, backward tow cables, slotted exhausts, etc. But, I was also fascinated by a particular paint scheme seen on vehicle 731. In February of 1942, the s.PzAbt. 501 was integrated into Panzer Regiment 7 of the 10th Panzer Division as the 7th and 8th companies. At this time the vehicles were also repainted, as well as being renumbered. The new markings are especially vivid, with very large turret numbers in red with a white outline and the unit symbol, a stalking Tiger, in yellow and black. On 731, the Norbert (painted in white with a black outline) has been partially covered by the new tactical numbers on the left-hand side of the turret. According to *Tigers in Combat I*, many of these tanks were repainted with captured stocks of U.S. olive drab.

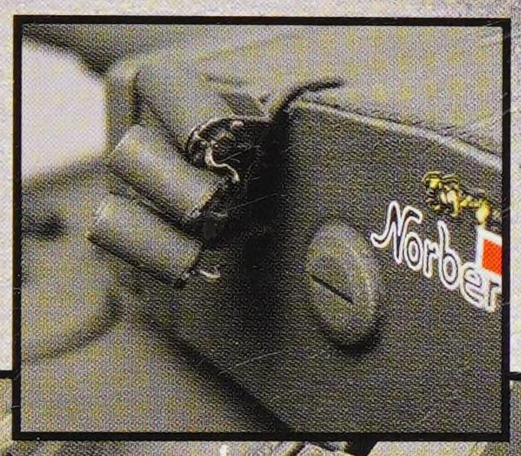
Problem: neither Norbert, nor my other choice, the Aberdeen Tiger, was a very early production vehicle. Norbert actually has most of the desirable attributes, except the backward two cables. This probably puts its manufacture date in December, while we know that the Aberdeen Tiger is a November production model. Norbert "bought the big one" sometime in April when it caught a round in the right side sponson. The British photographed it extensively after its destruction.

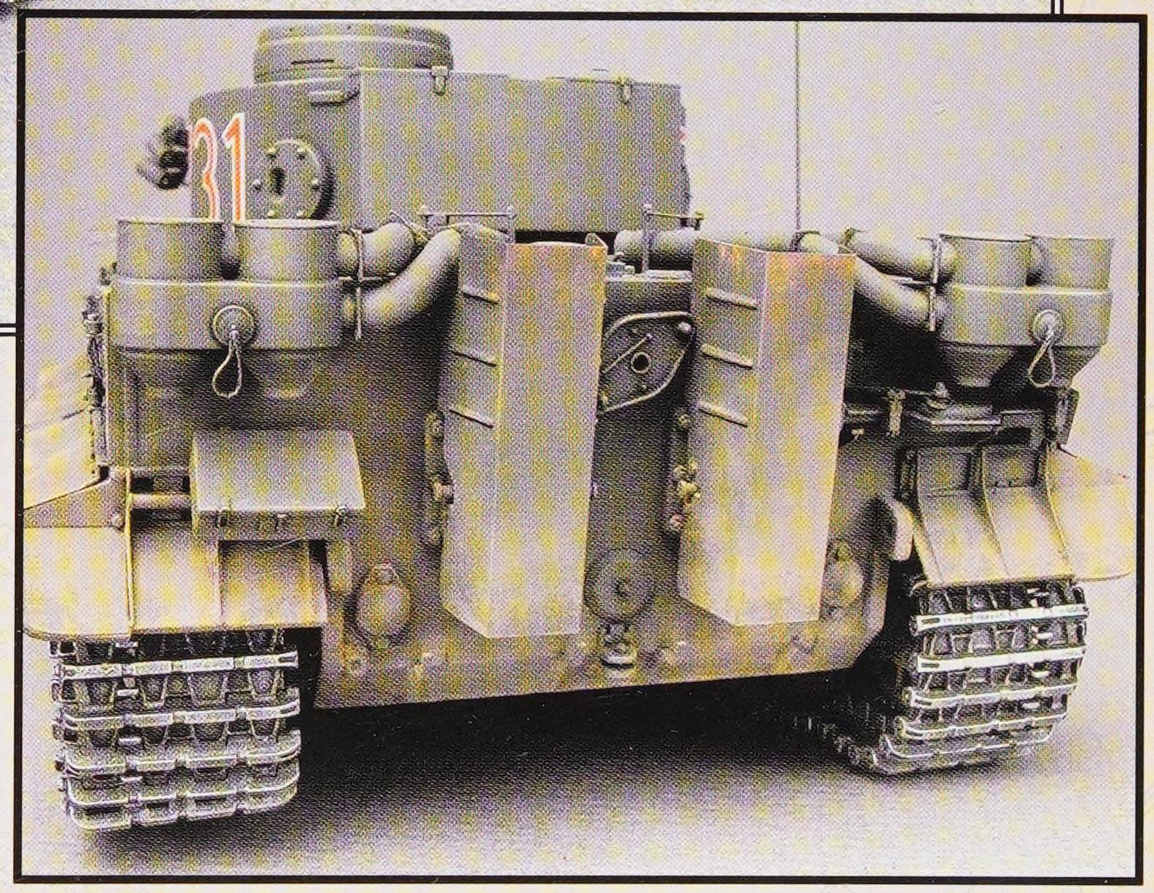
So, tow cables aside, I went ahead and did Norbert anyway, with all the early features. Just so you know the model is not completely correct. One Tiger that would be accurate for this scheme (but without the name) is vehicle 732 (formerly 132 of the 501). There is also a picture of this tank on page 8.

To skin Norbert, I used Tamiya U.S. Olive Drab, XF-62. This was faded out very slightly with a lighter mixture of the OD mixed with Dark Yellow, XF-60. The markings are from Archer's Tiger Mix #3, set 35157. If you're interested in other tanks from this unit, Archer also offers the numbers by themselves as 35112 and the teeny stalking Tigers as 35136.

The tracks are ModelKasten, SK-02, painted as described above.

731


Norbert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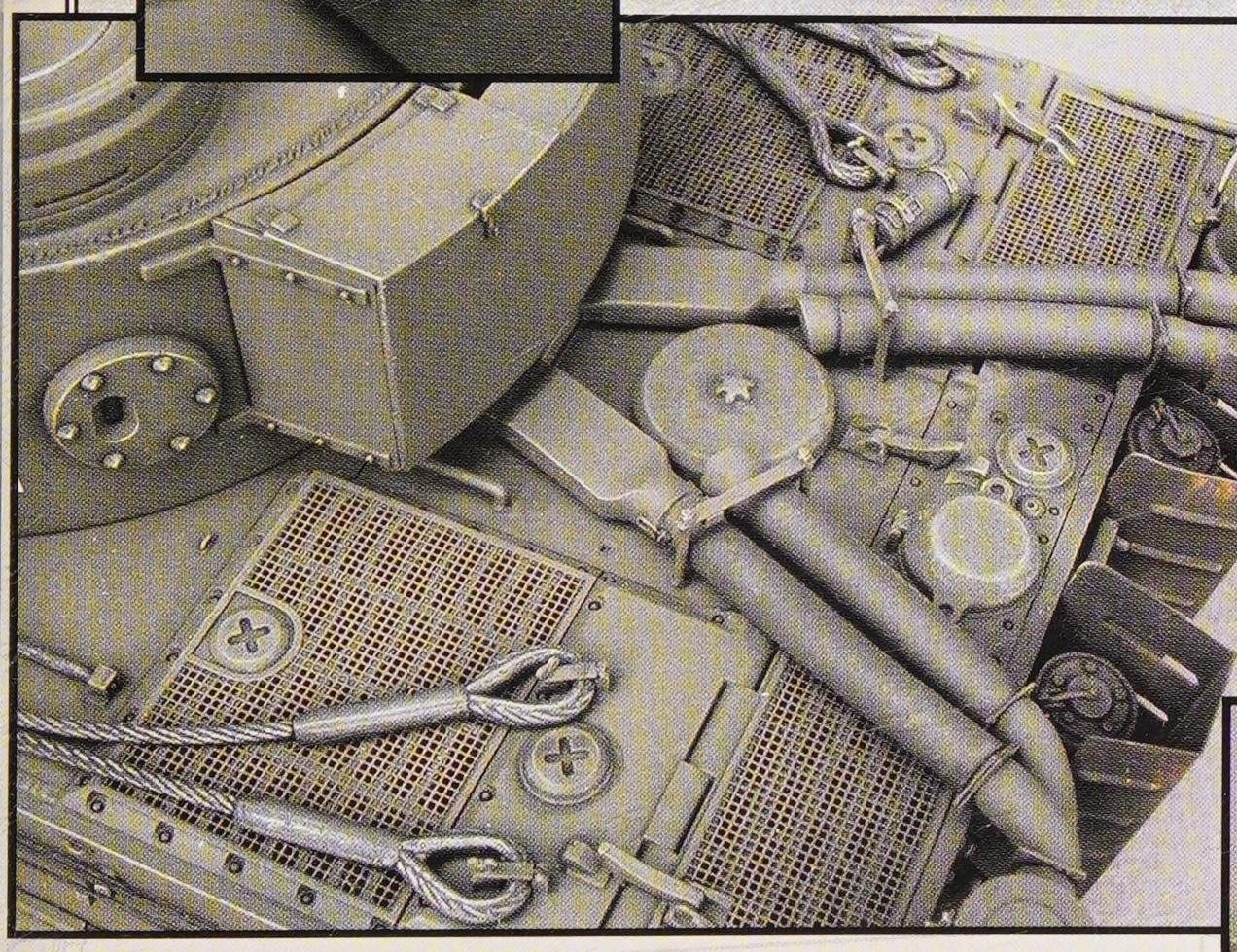
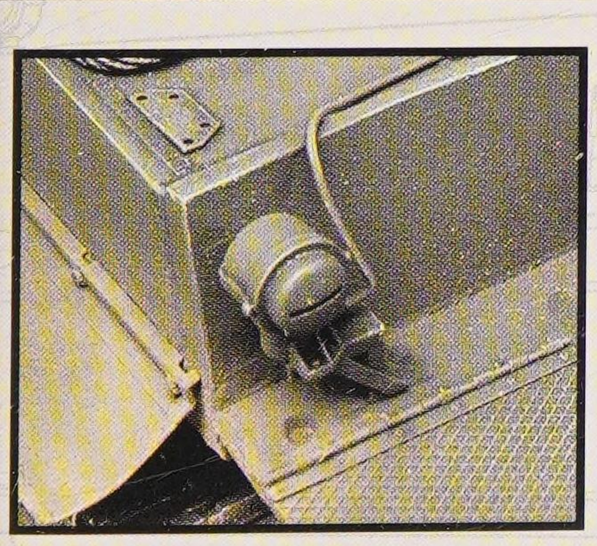
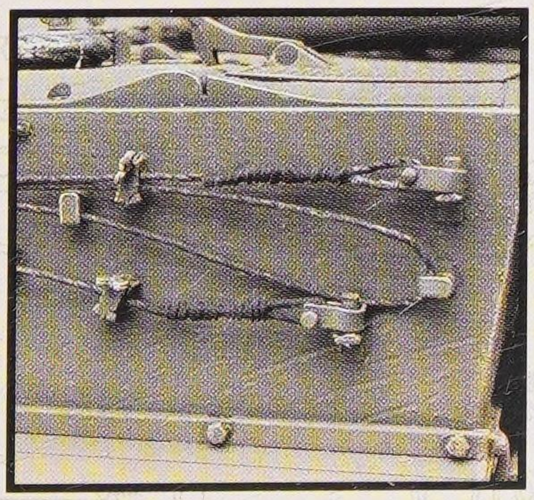
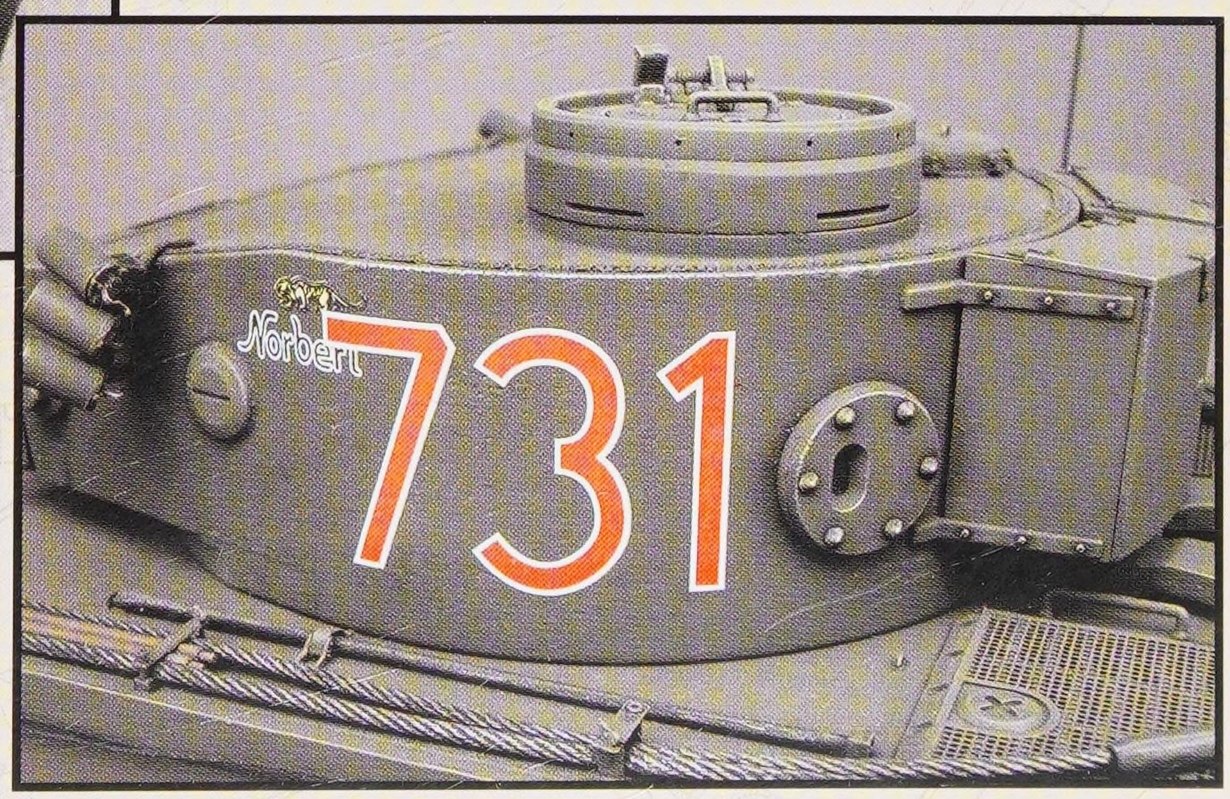
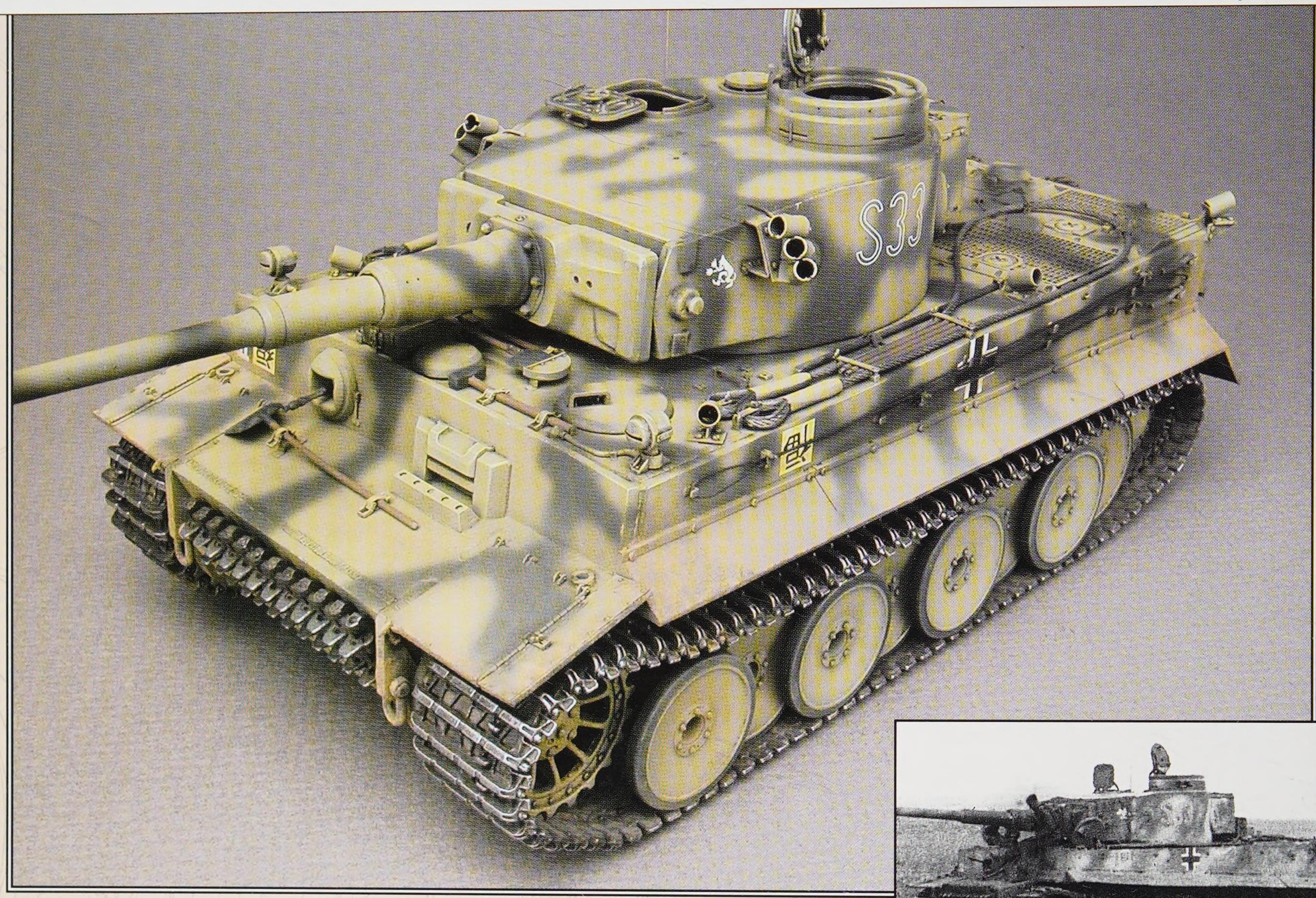


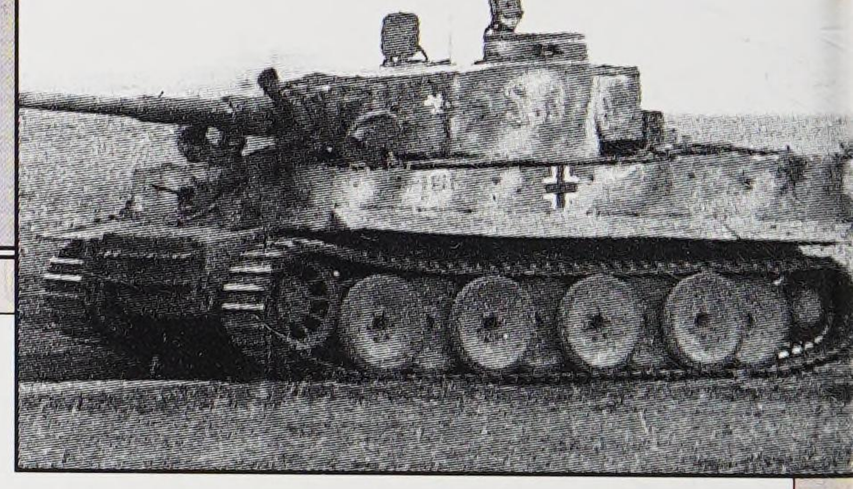





Norbert
731

Panzerkampfwagen VI Ausf. H1, Fgst. Nr. 250116 of the s.PzKp. SS-Panzerregiment 2 Das Reich, summer 1943





To me, the zenith of the Tiger I's career was at Kursk. This is where some of the really big kill numbers were racked up and where much of the Tiger legend was born. There is a bit of a mystery and more than a little myth surrounding the tank battles of the 1st SS Panzer Corps at Kursk, especially those fought in the southern sector. A very accurate telling of these battles can be found George Nipe's *Decision in the Ukraine*. Perhaps the most fascinating aspect of this work is that once all the facts are sorted out, it is evident that the Tigers nearly carried the day and won the battle. It was only circumstances elsewhere that turned the tide.

Das Reich was a fixture during this engagement as it had been during the Kharkov battles earlier that year. They spent their entire battle career on the eastern front, where their last Tiger tank was lost on March 26th, 1944.

My choice of tank for this period is the much-modeled S33. This vehicle has been the subject of numerous models for years and is even offered up as a scheme in Tamiya's kit 35216. I went deep into research mode on this one, intensely studying all the available photos of the tank. There are quite a few, both before the battle and after. There are also several other photos of Das Reich tanks of this period, which were helpful in determining its true colors.

According to Schneider's *Tigers in Combat II*, all the existing Tigers of Das Reich were repainted in dark yellow to match new tanks delivered in May of 1943, and then oversprayed with bands of red brown and dark green. All the reference photos show a very severe contrast between the base coat and the camouflage bands. This has been interpreted by most modelers as either all green or all red brown. However, Dunkelgrün and Dunkelbraun have about the exact same tonal value in a black and white photo (all colors have an equivalent tone in black and white, expressed as a percentage of black, i.e. 0% being white and 100% being black). So these tanks probably were as Schneider has described them.

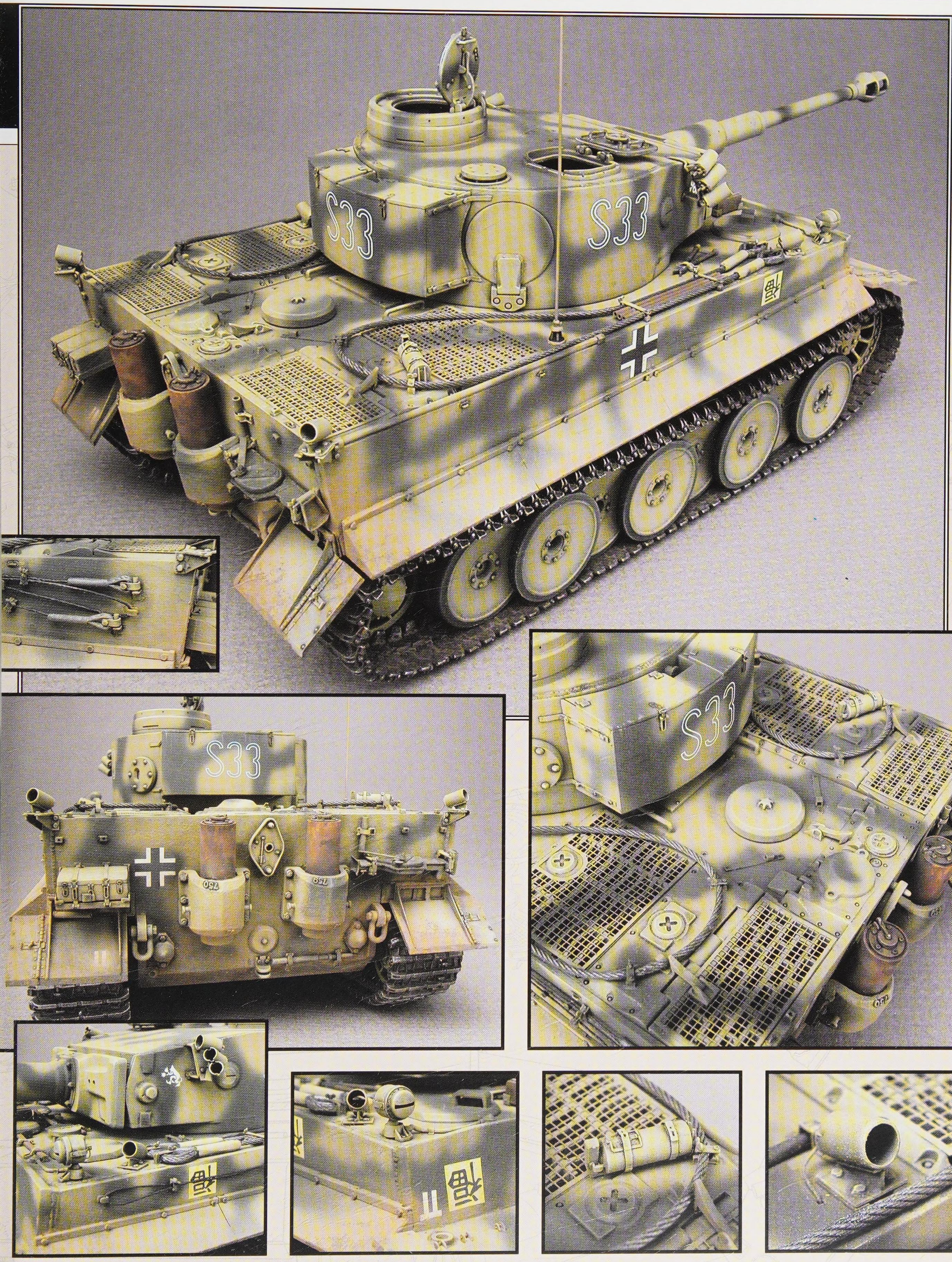
But who am I to buck a trend? I thought the all green bands looked way cool, so after laying on a base coat of XF-60, I created the bands with XF-61, Dark Green. The end result is very "contrasty."

This tank is sometimes known as the "Lucky Tiger," due to a Chinese symbol that was applied to the tank. The source of the symbol is said to have been a ring worn by the tank's commander. And, yes, it is properly positioned upside down (so the luck doesn't run out!). This symbol appeared on either side of the hull and on the right hand side of the glacis plate.

Other markings include the "Doppel-balken-rune" (kind of an upside down double bar "T") on the front glacis plate. This marking was instituted just before the Kursk movement and is not to be confused with the zigzag symbol used until the end of May.

The "S" tactical numbers represent the "schwere," or heavy element of the regiment. Prior to July, the unit was the 8th company of SS-Panzerregiment 2 and also contained a "leichte" element composed of Panzer III's. The last marking is my personal favorite. This is the so-called dancing imp seen on either side of the turret. The story goes that these little demon symbols would scare away the Russians. I wonder if it worked?

The tracks are ModelKasten, SK-02, painted as described above.


S33
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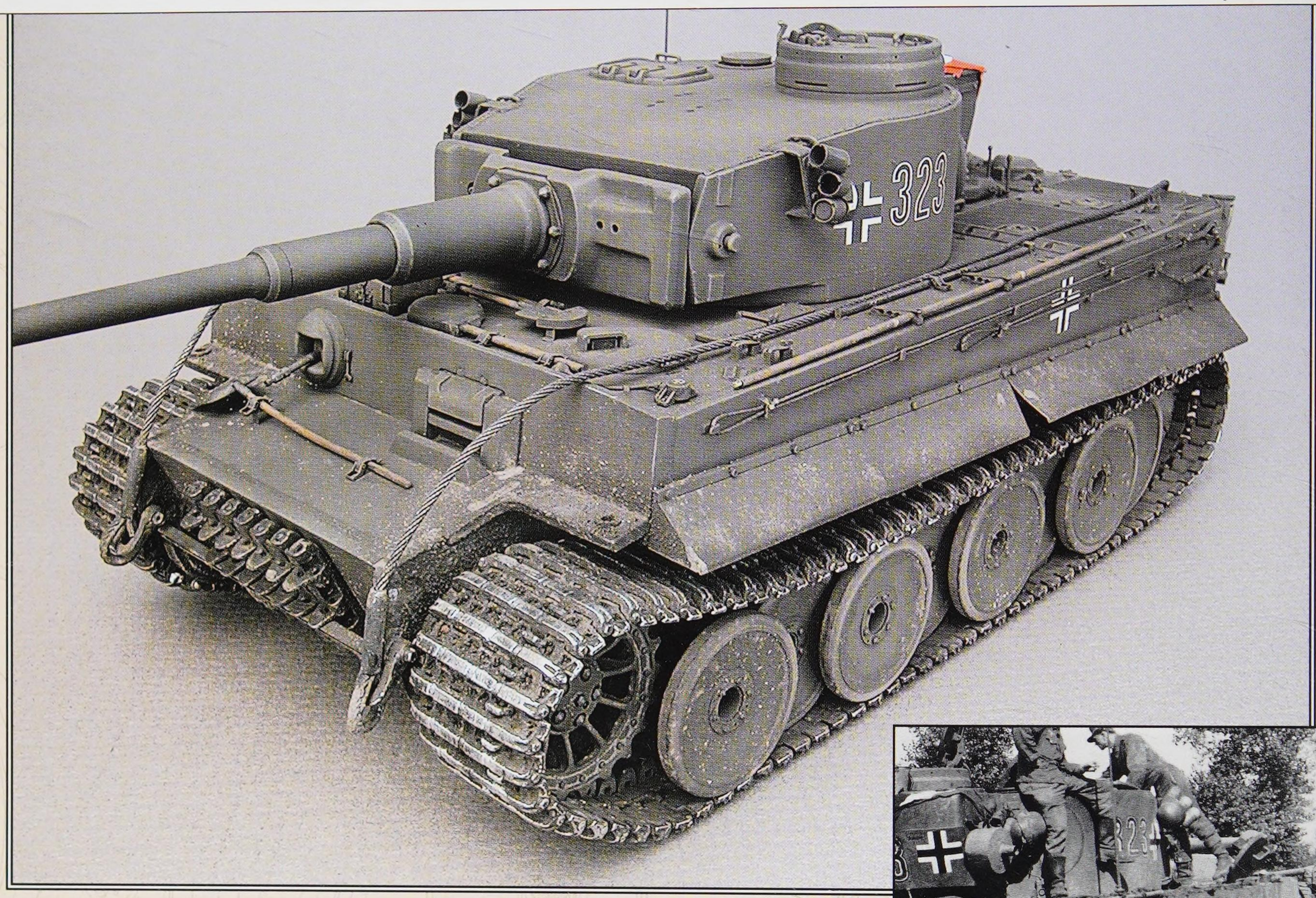
S33

Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. 250116 of the 3.Kompanie, s.PzAbt. 503, summer 1943



This tank is the Army counterpart to the previous tank serving in one of the Wehrmacht's most active units, the 503. Originally selected to deploy the Tiger (P), the 503 took possession of its first Tiger I's in December 1942. The unit fought in the southern sector of the eastern front until being exhausted and reformed in May of 1944. Fighting in France during the aftermath of the Allied landings, they participated in some of the heaviest fighting in the region. After further attrition, they were refit again in late September 1944 and sent to Hungary. They fought outside Budapest and briefly in Czechoslovakia. Remnants of the unit surrendered there in 1945. The 503 had the highest number of kills of any Tiger unit, with 1,700 tanks to their credit.

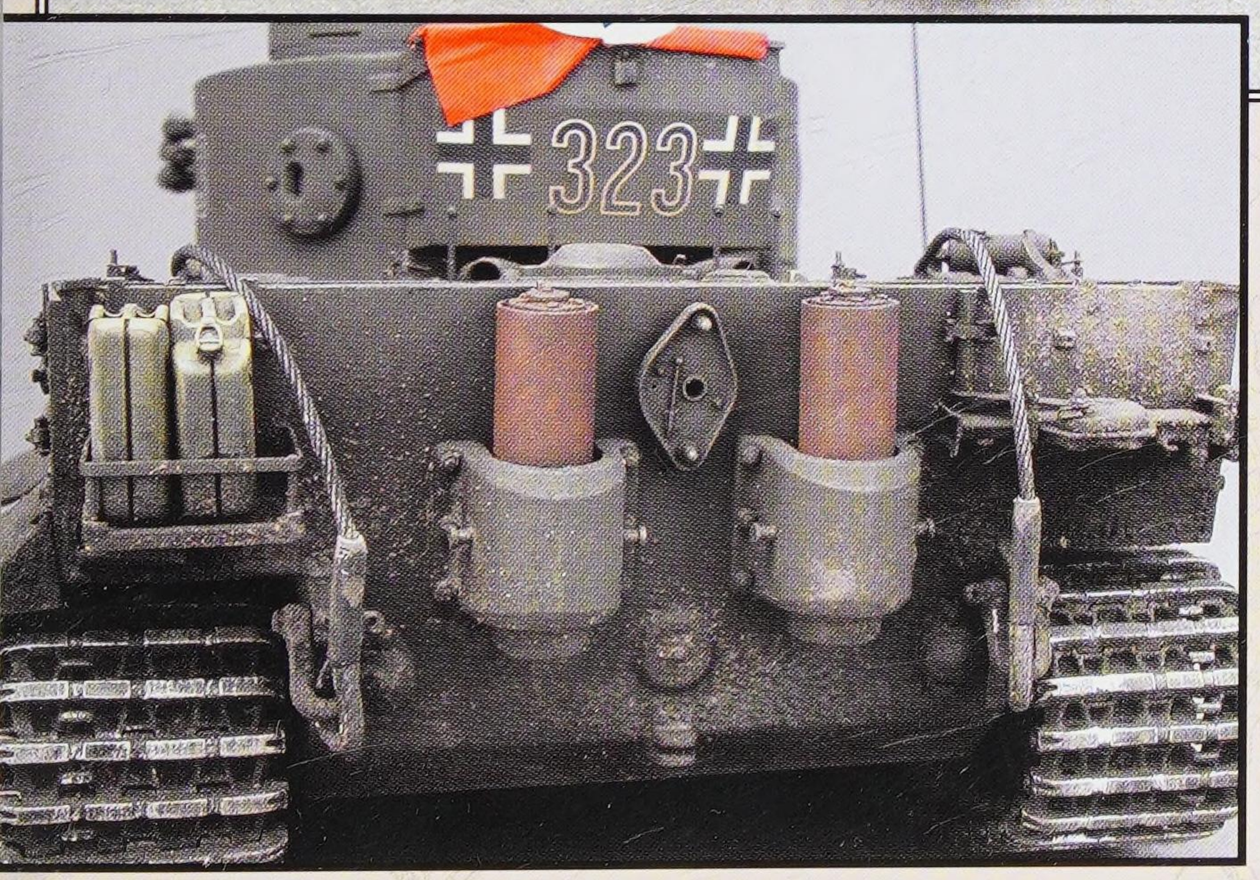
I chose this particular tank because it was an earlier tank with very unusual camouflage and markings, and there is plentiful photo reference on it. In all the photos it is evident that the tank is painted in a very dark color. It is further evident that it is a solid color. At first, I thought it must be dark gray, right? But wait, it's way too late for this color, I mean we're well into Dunkelgelb and the whole three-tone thing at this date. I pondered over this for some time. *Tigers in Combat I* is slightly helpful in this matter when it states: "In the spring of 1943 the tanks were repainted in a strange mixture of dark yellow-green-olive." This does help to establish that they were not painted in dark gray, but this still didn't completely solve it for me. Clearly these tanks are a very dark color about the equivalent of dark gray in tone, but not in color. So, I blended what my eyes told me and what the book told me, and came up with a very dark green color. I mixed this primarily from Tamiya XF-61, adding some Dark Yellow, XF-60 and even a small amount of XF-63 to dull it down. The result is about what I'm seeing in the black and white photos.

The markings on 323 are also on the odd side. There are several different sizes of the national cross applied to the tank and the tactical numbers are black with a white outline, surrounded by another very thin black outline. Weird. The Archer set was absolutely essential to creating this unusual look. I was pleased to find that the numbers also appear on the back of the turret stowage bin, giving me a chance to show off more of the Archer handy work. These are included in the Tiger Mix #3, set 35157.

The recognition flag is also an Archer item (35008). This guy's a little tricky, as one has to sandwich foil in between the matching sides to create the flag. I found lead foil to be too thick and opted for several layers of kitchen foil laminated together with spray adhesive. The truly tricky part was forming the panel over the stowage bin without wrecking it. Touch ups were made with Vallejo Red and then the panel was sprayed with Vallejo Flat.

The tracks are Friulmodellismo, ATL-25. The finished tracks were buffed with a fine brass wire brush, then soaked in vinegar, rinsed in water and immersed in Blacken-It for 10 minutes. Once dry, they were given a heavy wash of black oil paint. After final weathering, the tracks were buffed with a kitchen-scouring pad to show natural metal wear.

323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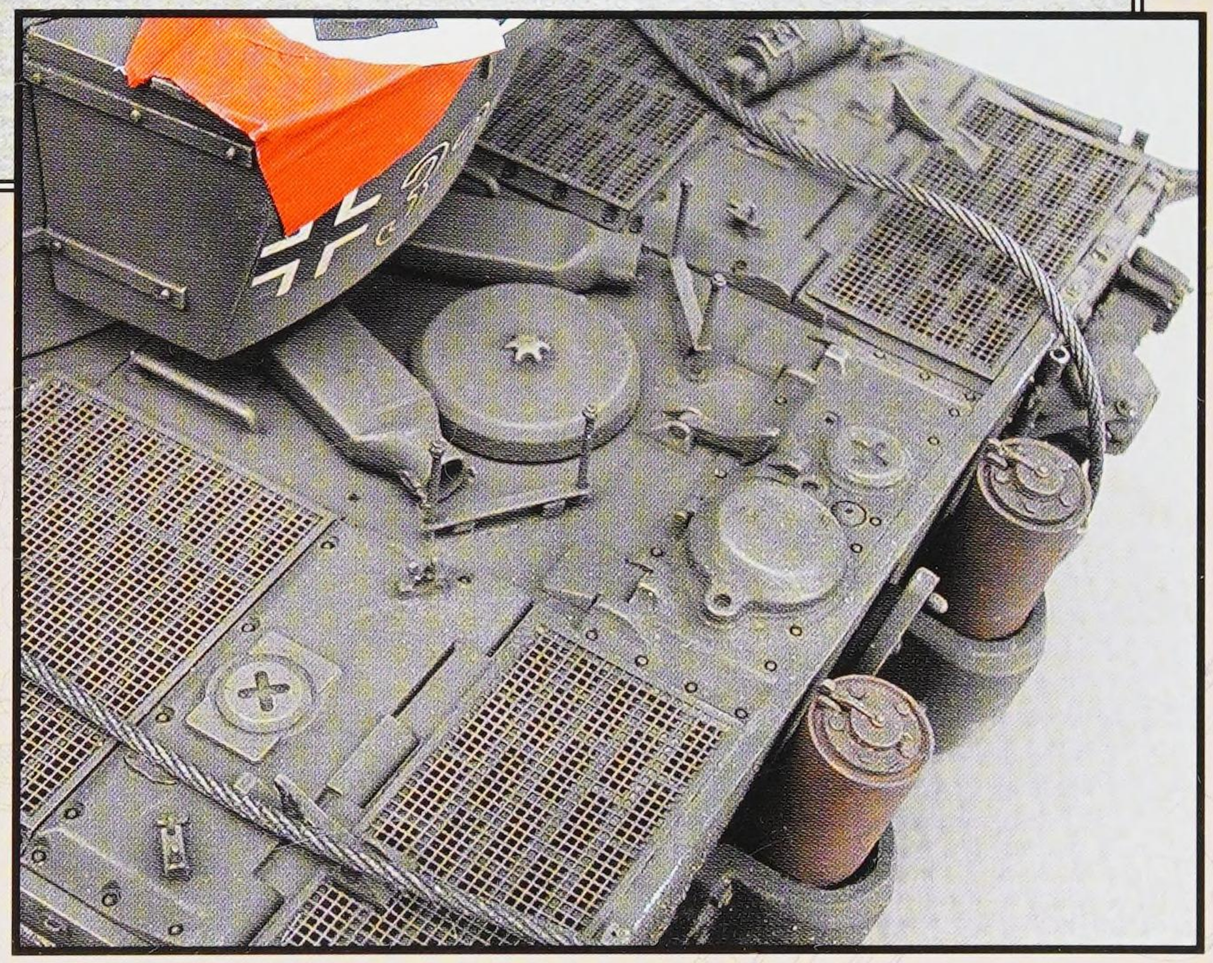
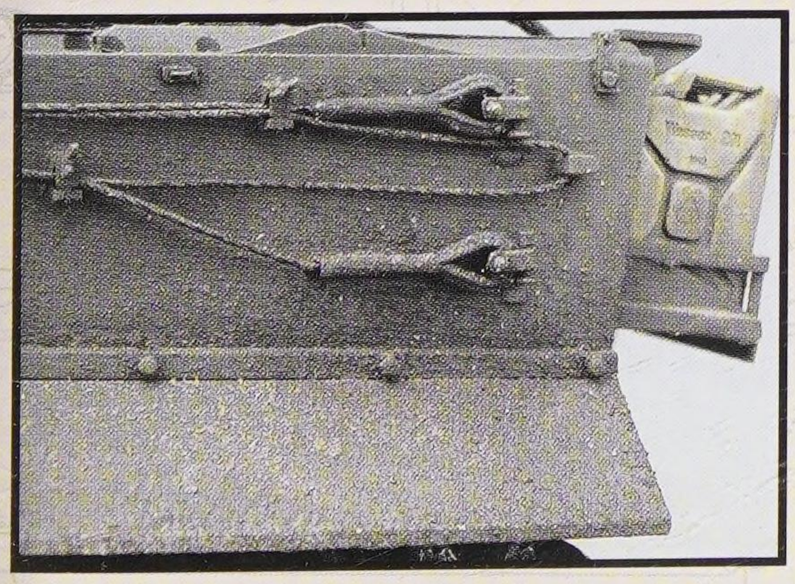
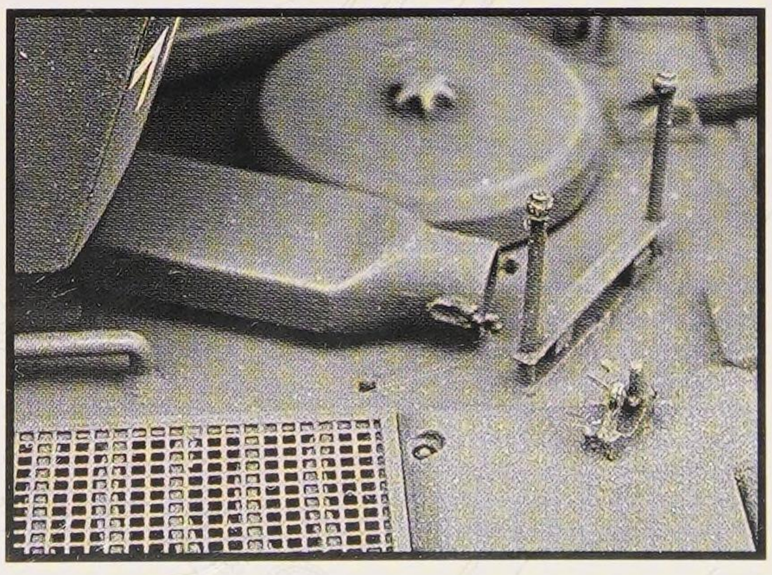
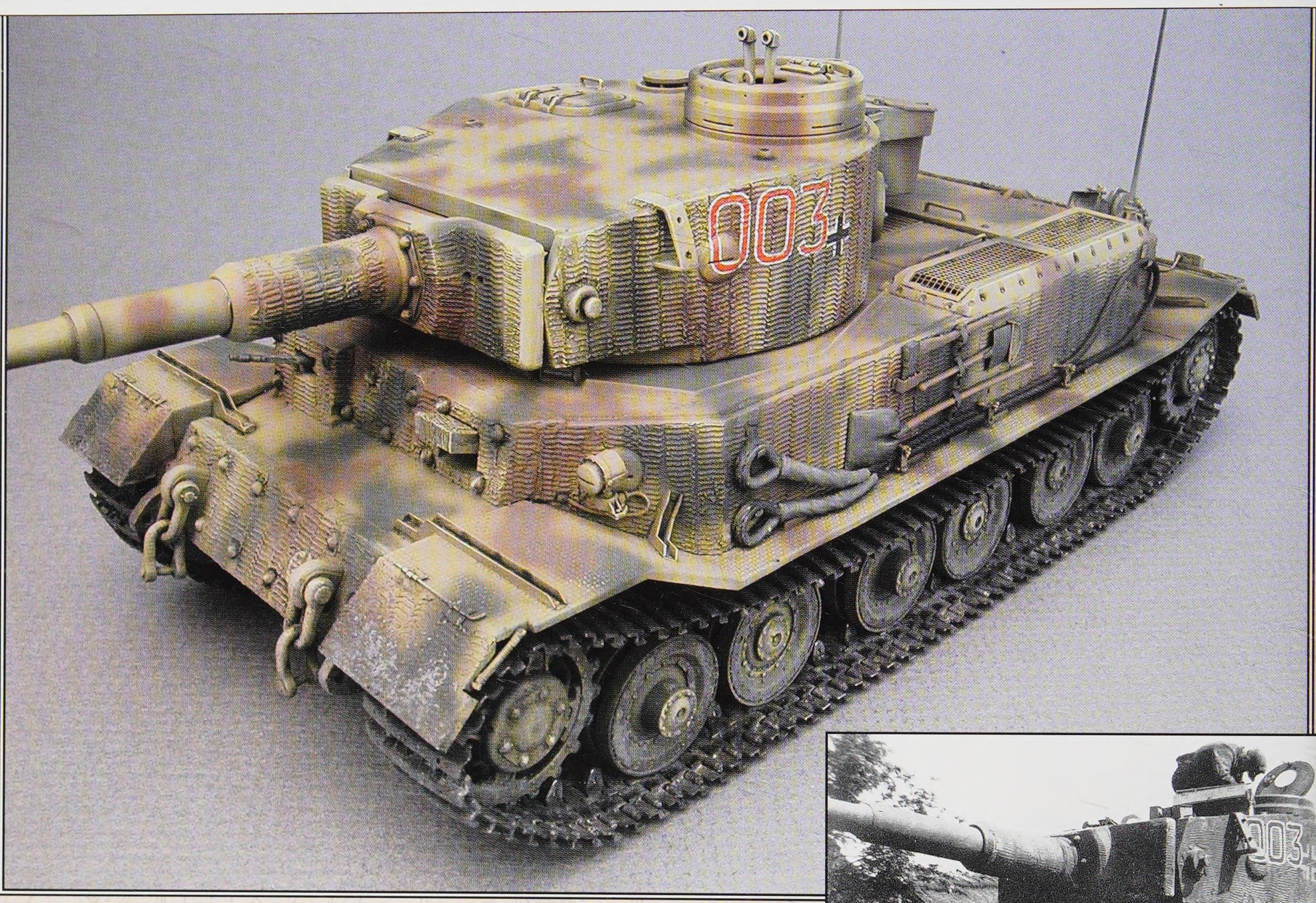


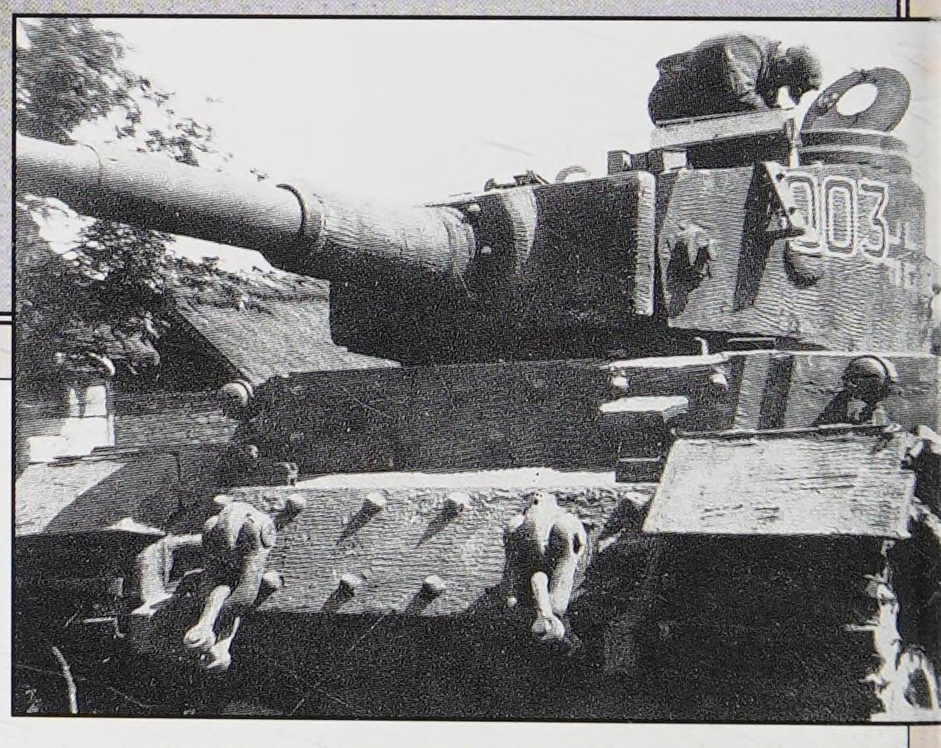


323



Panzerkampfwagen VI (P) - Fgst. Nr. 150013 of the Stabskompanie, s.PzJgAbt. 653, summer 1944





When the news of this tank was first introduced to the modeling world, it caused quite a stir. Thanks to contemporary armor literature, we now know all about this vehicle and how it looked. If you embark upon this project (or if someone finally does a decent kit of it), you'll definitely need *The History of the Porsche Typ 100 and 101 also known as the LEOPARD and the TIGER (P)*, by Tom Jentz. This contains the complete history of these strange Tiger relatives. The author traces many individual vehicles, including the subject of this feature.

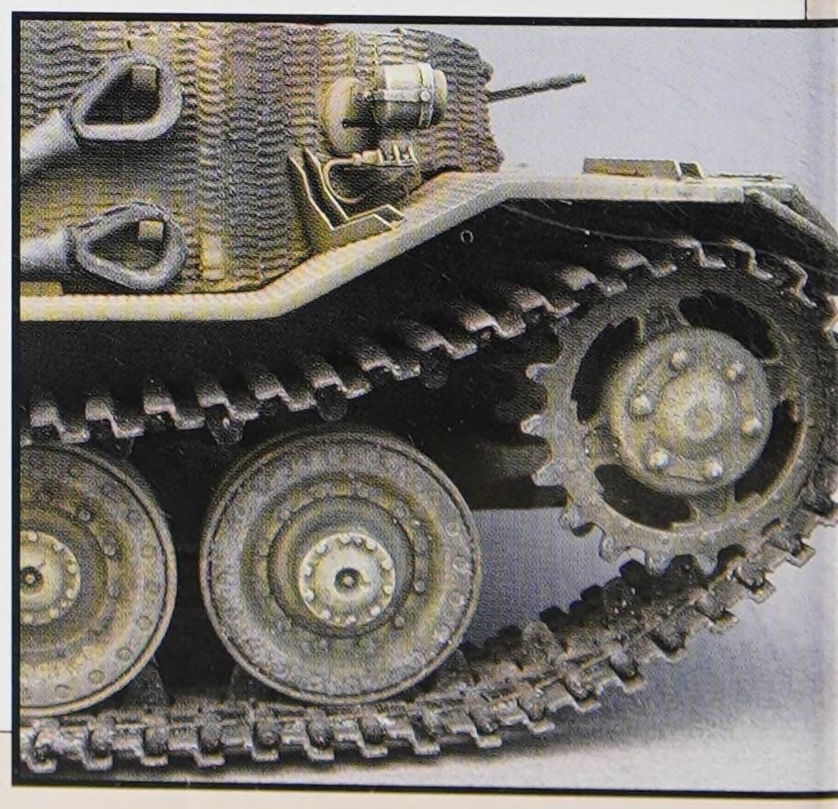
The vehicle in question was assigned to the headquarters company of the 653 and they had all kinds of weird stuff, such as a Bergepanther with a Panzer IV turret, another Bergepanther with a Flak Vierling and a T34 with the same weapon.

The Jentz publication contains the only accurate plans that I know of. Also helpful is the *Combat History of Schwere Panzerjäger Abteilung 653*. This massive book contains all the photos in the Jentz book, plus several more. Using these few photos and the time frame, I could box in the paint scheme pretty well. This is one of those unique instances when all angles of the vehicle are shown in the photos, giving me accurate placement information of all the markings.

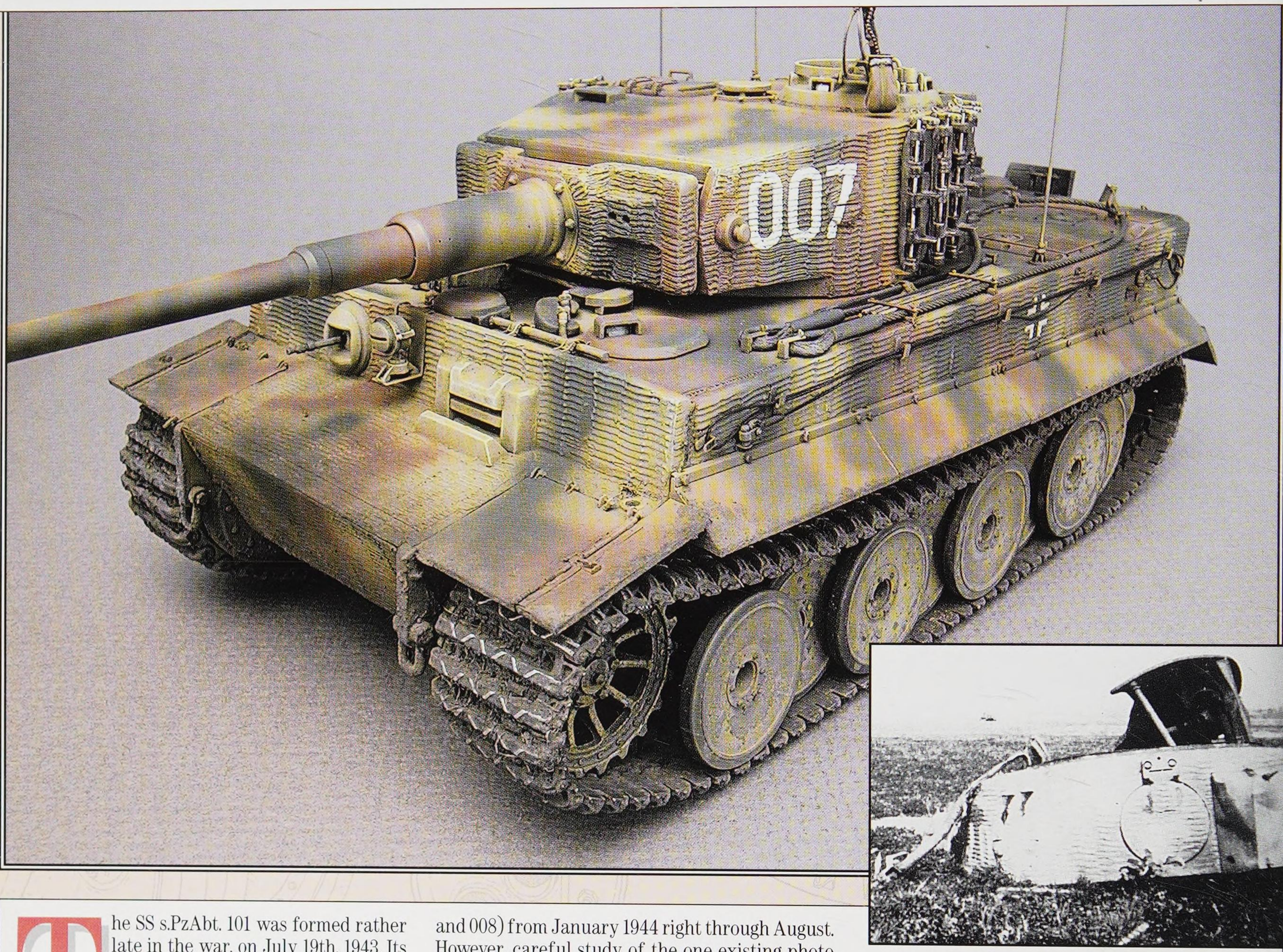
The model wears the standard three-tone scheme overall, created with XF-60, XF-61 and XF-64. Unfortunately, dust and grime obscure the surface of the tank in all the photos, but enough of the underlying scheme showed through to give me a rough idea of the pattern.

As this particular tank was outfitted as a command tank, it carried the distinctive "double zero" tactical numbers. These and all the other markings are from the Archer Tiger Mix #4, set 35158. It was a bit of a hump getting the numbers to lay down on the Zimmerit. I rubbed the transfers onto decal paper, trimmed them out and used copious amounts of Solvaset. The only other markings on the tank, besides the three crosses, were the 653 crests on the front glacis and the rear hull. Similar effort was required on these markings, but the results were well worth the trouble.

The tracks are Friulmodellismo, ATL-23. This is one of two types offered by them for the Ferdinand/Elefant. The reference photos clearly show the earlier type with the shallow chevrons on the face of the track cleat. They were finished as described above.



Panzerkampfwagen Tiger Ausf. E - Fgst. Nr. 250802 of the Stabskompanie, SS s.PzAbt 101 (501), spring 1944



The SS s.PzAbt. 101 was formed rather late in the war, on July 19th, 1943. Its combat record had already been firmly established as the heavy tank company of the 1st SS Panzerdivision "LAH" (where one Michael Wittman gained many of his kills). Their first combat as the SS s.PzAbt. 101 was in France where they fought savagely throughout the summer of 1944, finally losing their last Tigers in early September, 1944.

Reformed and re designated as the s.PzAbt 501 in the late fall of 1944, the unit fought throughout the Ardennes battles as part of the SS-Panzerregiment 1. Withdrawn and sent to Budapest in late January, the unit fought there and in Austria until April of 1945.

It was originally my intention to accurately recreate Michael Wittman's "death tank," tactical number 007. Based on information in *Tigers in Combat II*, I believed this tank to be a January 1944 production Befehlswagen. This is based primarily on the diary entries that state the unit took delivery of two Befehlswagens on January 3rd, 1944 (there were only three in the unit until it was refit with Tiger II's). Further, the organizational diagrams show two rubber-wheeled tanks (007 and 008) from January 1944 right through August. However, careful study of the one existing photo of 007 reveals that this tank is not a January 1944 production, but rather a February production with steel wheels. The third tank of the HQ Company (009) is listed as a steel wheeled Tiger and it is possible that this tank was renumbered as 007 prior to Wittman's command, but there is no confirmation of this. If the switch theory is correct, then this tank is still accurate for the spring of 1944 and it does accurately represent a January 1944 Befehlswagen.

Wittman took over this mount from the battalion commander when he was relieved due to severe exhaustion on July 13th, 1944. Wittman served with it until August 8th, when his group of five tanks was attacked from the flank by the 3rd platoon of A Squadron of the 1st Northamptonshire Yeomanry. Using both 75mm-armed Shermans and a single Firefly, they knocked out all five tanks. Wittman's tank appears to have taken a round into the side armor that penetrated and caused a catastrophic ammunition explosion.

The camouflage and markings for tanks of the LAH at this time are well documented with numerous photos of all types of tanks in the field. It's a basic three-tone color scheme and the photos show that the tanks were painted in an almost textbook fashion. I used the same colors on the model as mentioned above.

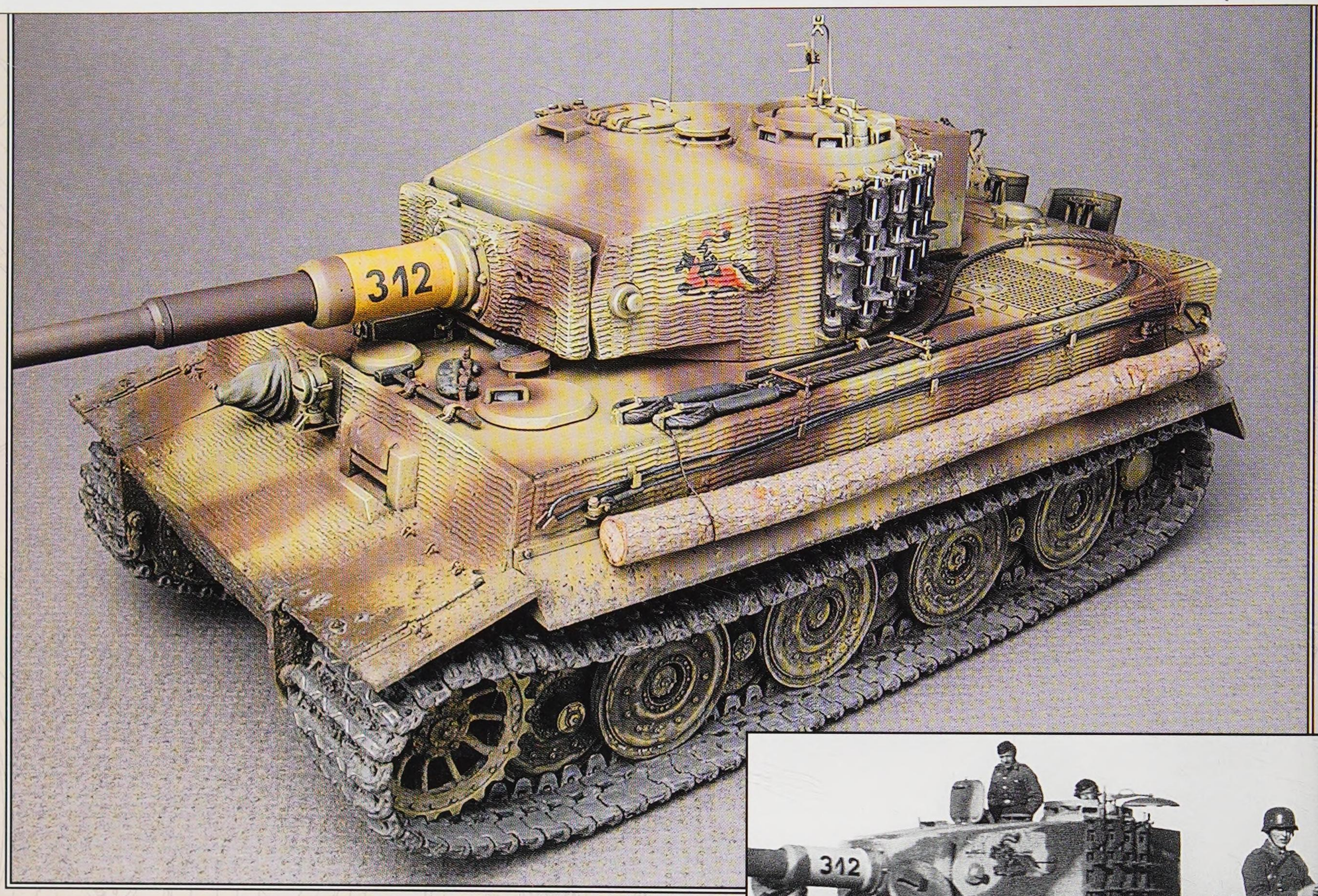
There was a specific marking system for each of the unit's companies. This specifically related to placement and style of the divisional insignia. This varied from right to left on the front and rear hull and some companies removed a patch of Zimmerit to apply it. No specific information exists about the markings of the Headquarters Company other than the tactical markings. According to the one photo of 007, the HQ company retained the solid white numbers first instituted in the spring of 1944.

I went with the solid white tactical numbers and applied the insignia right over the Zimmerit. These markings were culled from the Archer Tiger Mix #2, set 35156.

The tracks are Friulmodellismo, ATL-06. Used for the first time here, this is the late type with the chevrons on the face of the track cleat. They were finished chemically as described above.

007

Panzerkampfwagen Tiger Ausf. E - Fgst. Nr. 250825 of the 3.Kompanie, s.PzAbt. 505, spring 1944



The 505 was originally established using personnel from the 3rd and 36th Panzer Divisions that were earmarked for deployment to North Africa. Taking delivery of their first tanks in the spring of 1943, they fought entirely on the eastern front as part of Heeresgruppe Mitte. Fighting along the same general longitude for two years, they slowly moved from east to west, until being dispersed near Königsberg in the spring of 1945.

Among all of the Tiger units, the 505 probably had some of the most vivid markings. Although developed over a period of months, the final form of the scheme appeared in the spring of 1944. The nucleus of the scheme was an icon of a charging knight. This was first seen in the late winter of 1943 and by the summer of 1944 it was seen painted on the sides of all the battalion's tanks. Interestingly, on Tiger II's, the knight was painted on a square that had been cleared of Zimmerit.

On the Tiger I's, the knight was used in conjunction with a small black tactical number applied to either side of the gun's barrel sleeve and the rear of the turret stowage box. On the barrel sleeve, this was applied over a yellow background. There has been some debate over this in the Japanese modeling press, but close examination of the original photos indicate that it is most definitely yellow.

I decided on number 312, primarily based on the excellent photos that exist of it moving through the Augustowo sector of the eastern front in the spring of 1944. The camouflage and markings are especially vivid in these photos and they also reveal the installation of Kletterbalken (crossing beams) on either side of the hull.

It has become generally accepted that the 505 used only broad bands of red brown for its camouflage. This is mostly based on the early practices of the unit. The later photos support this, but due to the similarities between the dark green and red brown in black and white photos, it could be both.

I went with just the red brown to be a bit different, using good 'ol XF-64 to create the broad bands of color. The gun sleeve was carefully masked off using Tamiya tape. I used a large punch and die set to create a hole in some of the wider tape that matched the diameter of the sleeve, then slipped it over to mask the base. The opposite end was simply wrapped with tape. This was then sprayed with XF-3, Flat Yellow. The markings are all from the Archer Tiger Mix #4, set 35157.

The crossing beams were plucked from a tree outside of the office and cut with a razor saw to the proper length. They got a few minutes in the microwave to sterilize them, and were then carved and modeled slightly with an X-acto before they were attached to the tank with fine wire.

The tracks are Friulmodellismo ATL-06, the late type with the chevrons on the face of the track cleat. They were finished chemically as described above.

Panzerkampfwagen Tiger Ausf. E - Fgst. Nr. 251228 of the 2.Kompanie, s.PzAbt. 503, summer 1944

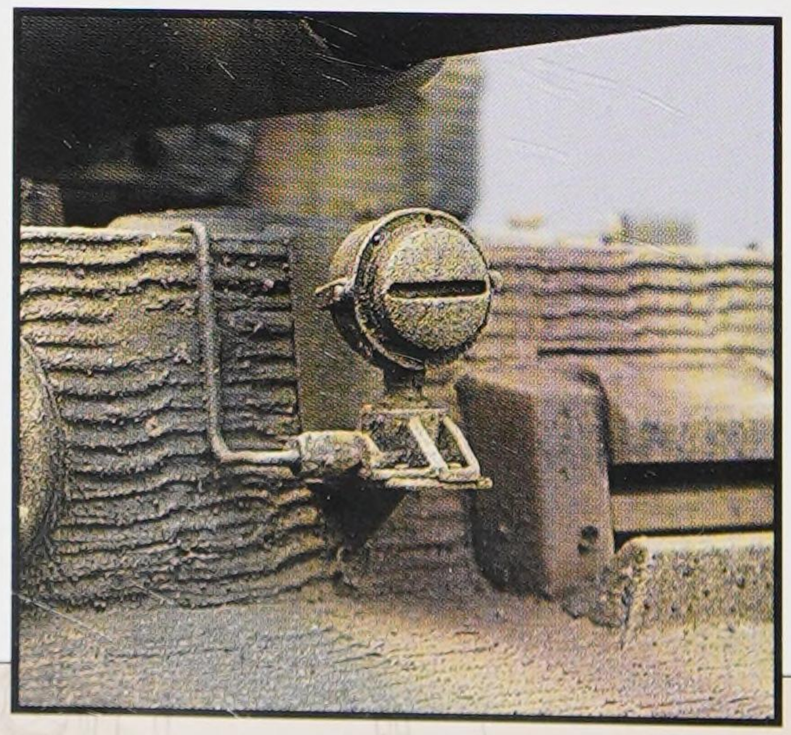
Yep, it's the 503 again here (just wait). This tank was inspired by a number of photos of retreating tanks, especially the shot seen on page 15 of this book (and right here). I chose tactical number 213 primarily because I could not find any photos of it (but I did verify its existence in *Tigers in Combat I*). This gave me a chance to do my own thing.

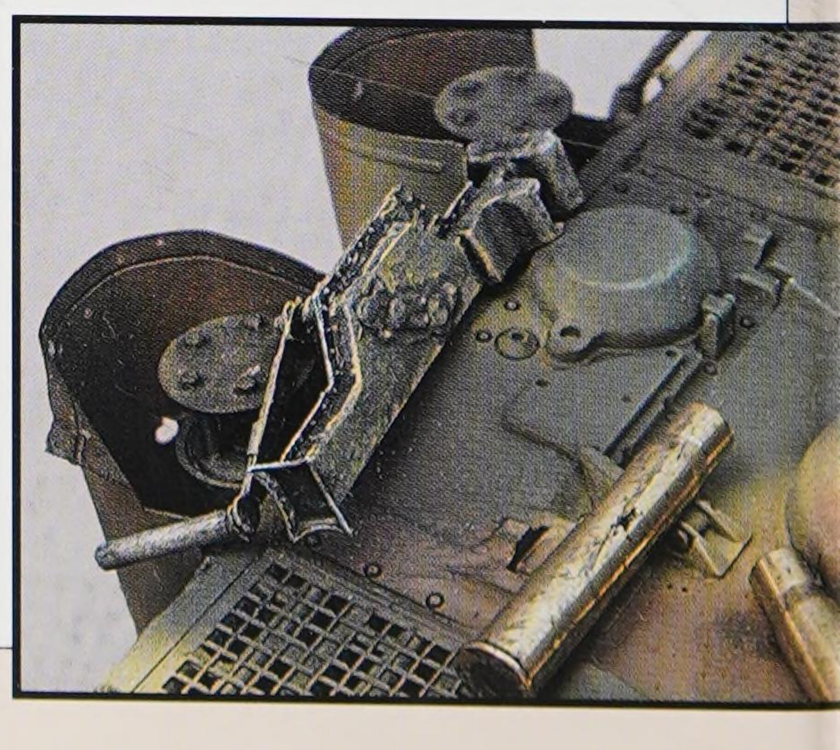
It is a standard three-tone scheme using Tamiya paints (again). There are no specific markings for this tank in Archer's Tiger Mix series, but they do offer the distinctive style of tactical numbers seen on Tigers of the 503 during the summer of 1944. This sheet is German WWII medium weight tall black with white outline turret numbers, 35040B. Appropriate sized crosses were selected from Archer's German WWII Balkenkreuz mix #1, 35043.

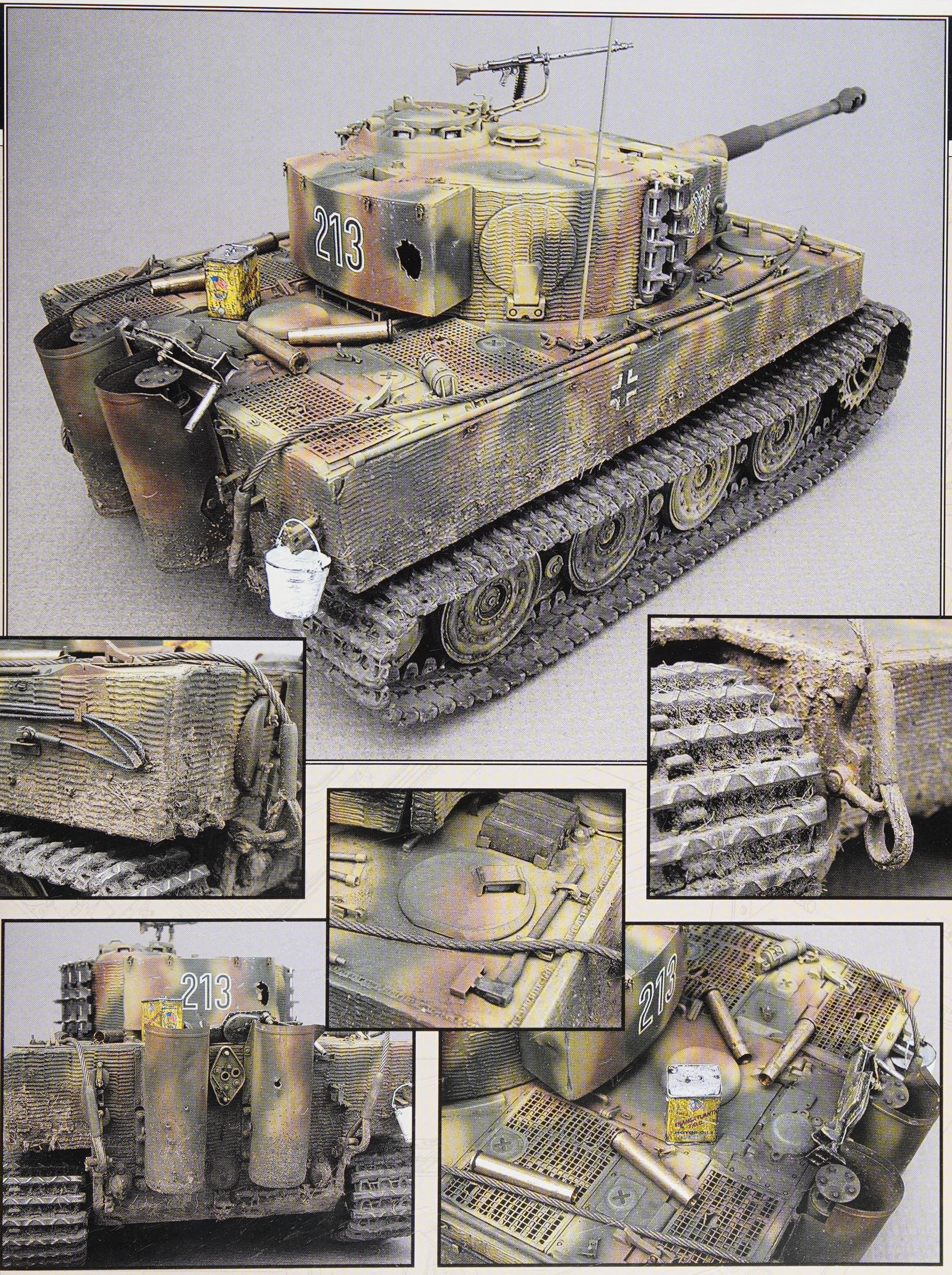
Weathering on this tank was heavier than usual given its long combat journey. Heavier amounts of mud were applied to the front and rear of the tank and the rear hull was darkened to represent heavy exhaust stains. The barrel was also darkened to represent the burnt paint that would result from constant firing.

I broke my "no equipment" rule here and added empty shell casings from the Tamiya set 35189. These were dulled down with black powdered pigment. Much of the ammo used at this time had lacquered casings (the MG stuff, too), but brass was still seen as supplies were exhausted.

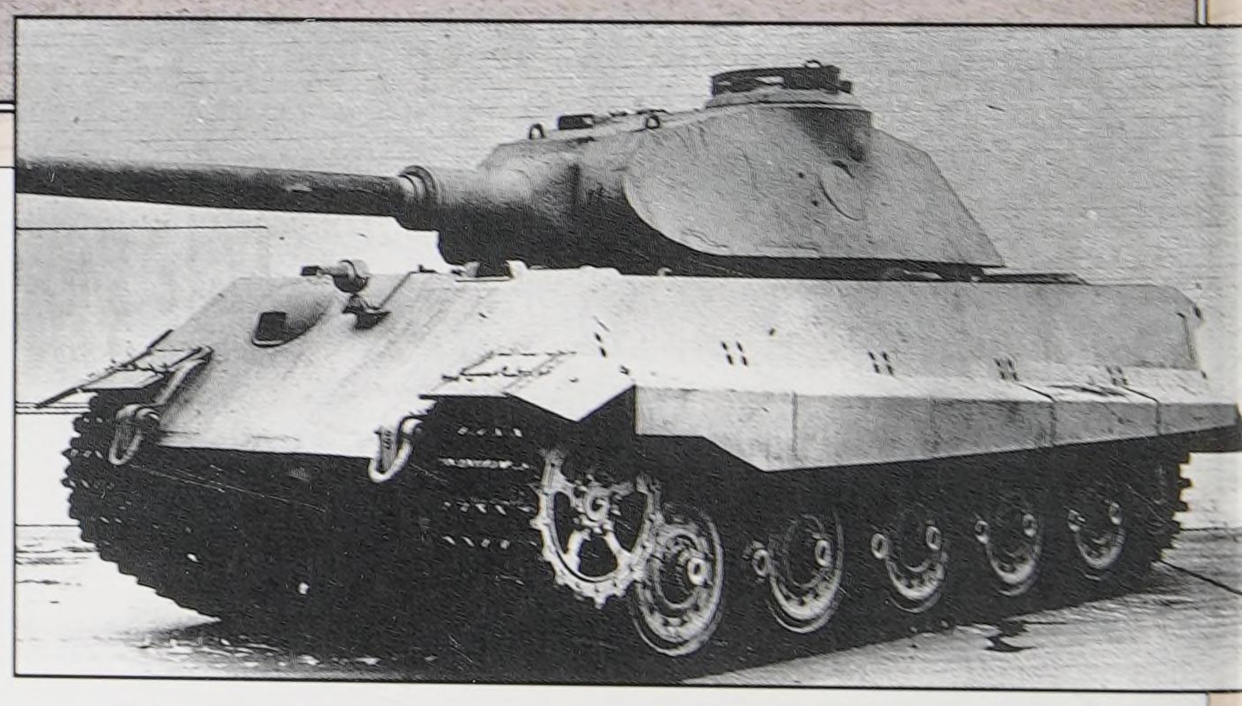
As a finishing touch, a Plus Models photo-etched bucket was added to the rear and the same manufacturer provided the marvelous resin American oil can and decal (captured U.S. stuff, you know).






213

Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. V1 at Kummersdorf, spring 1944



My pal Fish (see construction section) weighs in with his painting description of the Tiger II prototype.

I will probably be one of the last guys on earth to use acrylic paints. I prefer good old fashioned solvent based paints, the kind that give off fumes so strong that you think your neighbor's dog is talking to you. For the primer coat on this model I used Floquil's Roof Brown. The color coat is SP Armour Yellow darkened up a little with some of the Roof Brown. This color is more yellow than the corresponding Tamiya color. The prototype had no camouflage and this makes painting a bit harder. I wanted to avoid that monochrome look.

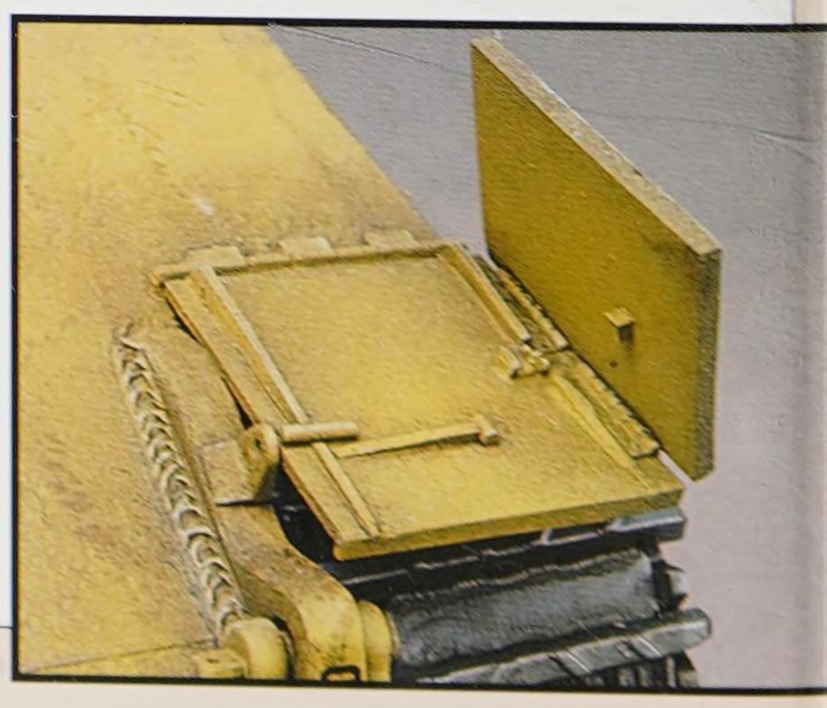
I clouded the model with different shades of the color coat to try and give it a little bit of contrast. On the prototype, the gun tube was left unpainted, except for a red oxide primer coat. I used Floquil's Red Oxide toned down with Roof Brown.

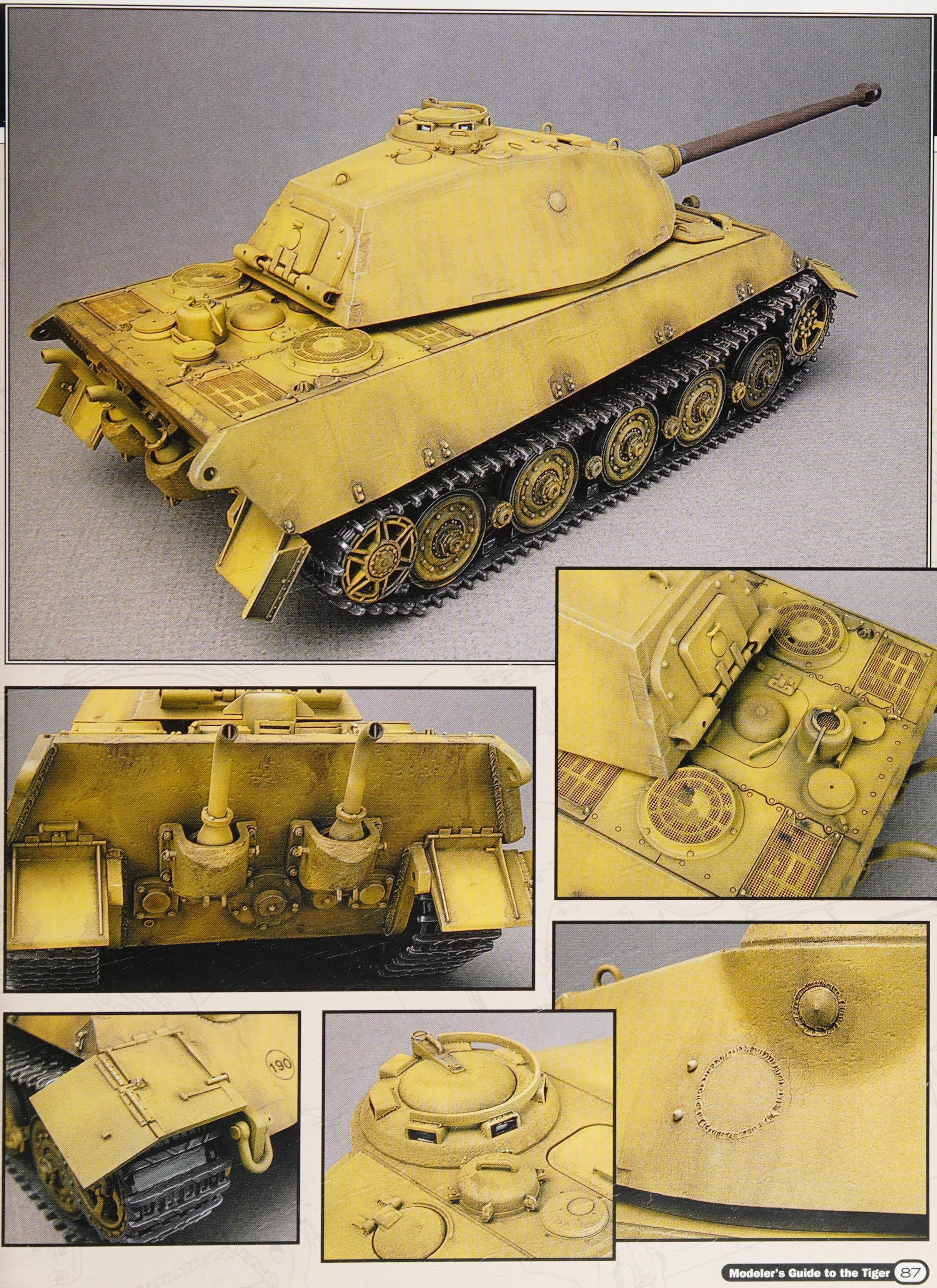
The prototype Tiger II had a thin coat of dark yellow that was chipped off and worn, particularly on the front hull. I used washes and drybrushing to represent this.

After everything dried for a day or two, I applied a wash using Grumbacher raw umber oil paint thinned with their solvent. I also used Grumbacher oils for all the drybrushing. Where the yellow was worn off and the oxide undercoat was showing through, I used raw umber lightly drybrushed around the edges. One thing I like about using oils is that if you weather a little too thickly, you can just use your finger to tone it down.

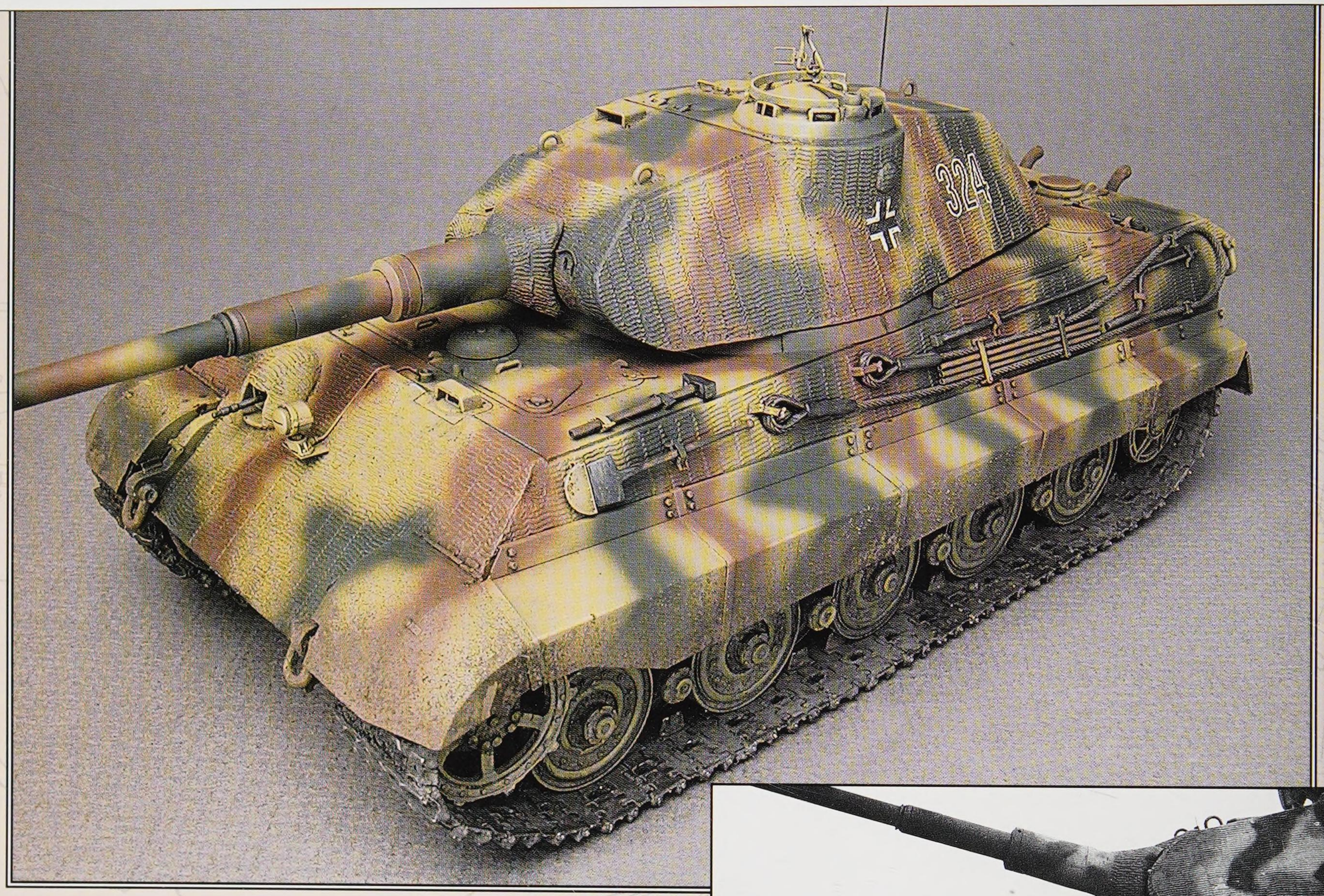
The prototype did not have any markings other than a circled "190" on the front hull and a "001" on the front left towing lug. I used various dry transfers for the numbers and made the ring around the "190" using a drafting template and a technical pen. However, these are now magically available in Archer's Tiger Mix #3, set 35157.

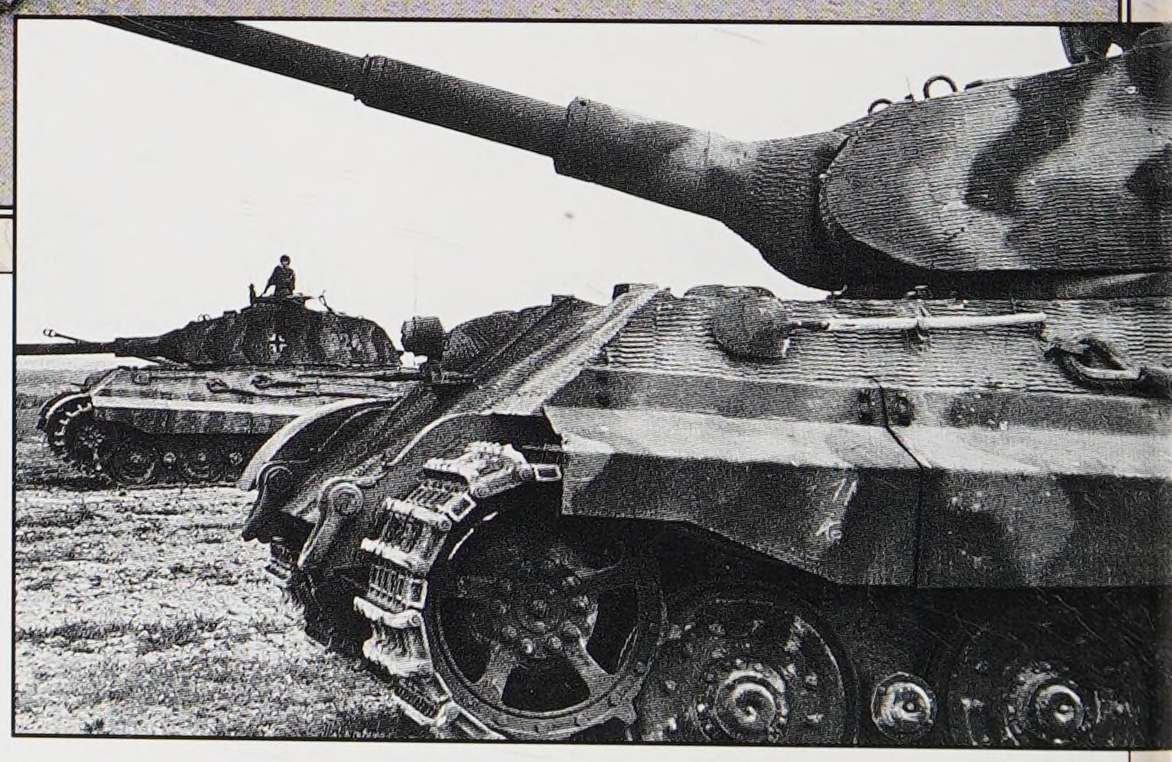
I used Humbrol gunmetal for the tracks. They have a very unique set of metal paints that provide realistic finishes. After applying the paint you wait thirty minutes and buff them out with a cotton cloth to get a worn metal look.





Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. 280047 of the 3.Kompanie, s.PzAbt. 503, summer 1944





After heavy fighting throughout June and July, the 3rd Company of the 503 was withdrawn from the front to be re equipped with the Tiger II. They took possession of their new tanks on July 31st, 1944. Interestingly, this was not the battalion's first experience with the Tiger II. They had received 12 of them as replacements back in the middle of June and they were issued to the 1st Company.

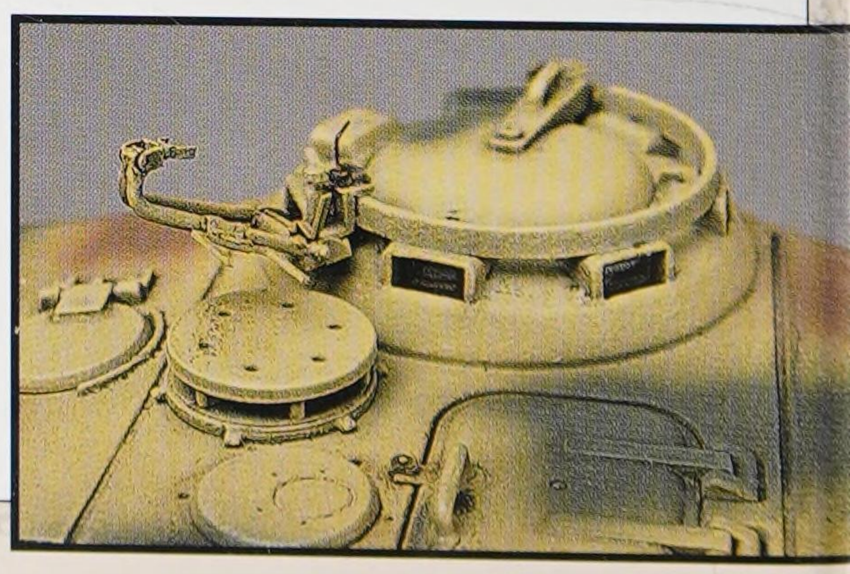
Unfortunately, the 3rd company didn't have much luck with their new mounts. After the refit, they were moved towards Paris and on the way one tank was lost when it drove off its flatcar during an air attack! After off loading in Paris, the company worked its way north where they were engaged in heavy fighting in support of a Luftwaffe Field Division. Their last tank was lost near Amien on August 24th, 1944.

Perhaps some of the most famous photos of the Tiger II are those taken of the new 3rd Company tanks while they were undergoing gunnery training at Mailly Le Camp. It was this group of tanks that inspired my model. Since Fish already covered a lot of the earlier attributes, what I was looking for was a very late version of the Porsche turreted vehicle—in fact I selected it to be the very last of the Porsche turreted tanks, 280047 (that's three prototypes and 47 tanks delivered for combat). I selected this tactical number mostly at random, but I did later find a shot of 324 that reveal it was a tank with slightly earlier features.

There is nothing terribly special about this paint scheme, other than it seems to have been applied very carefully throughout the 3rd Company. There is another well-known series of photos that depicts just such an occurrence. So, it was back at the model with trusty Tamiya XF-60, XF-61 and XF-64.

The 3rd Company used the same type of tactical numbers that were seen on other 503 tanks in Normandy. I somewhat misinterpreted this when providing the information for the Tiger Mix #3. A more accurate choice is the same numbers used on the 503 Tiger I; Archer 35040B.

I am fairly certain that 503 Tiger II's also had tactical numbers on the rear of their turrets in the same manner that their Tiger I's did. However, it was already a challenge to get the numbers to lay down over the Zimmerit, much less the very bumpy back end of the Porsche turret.



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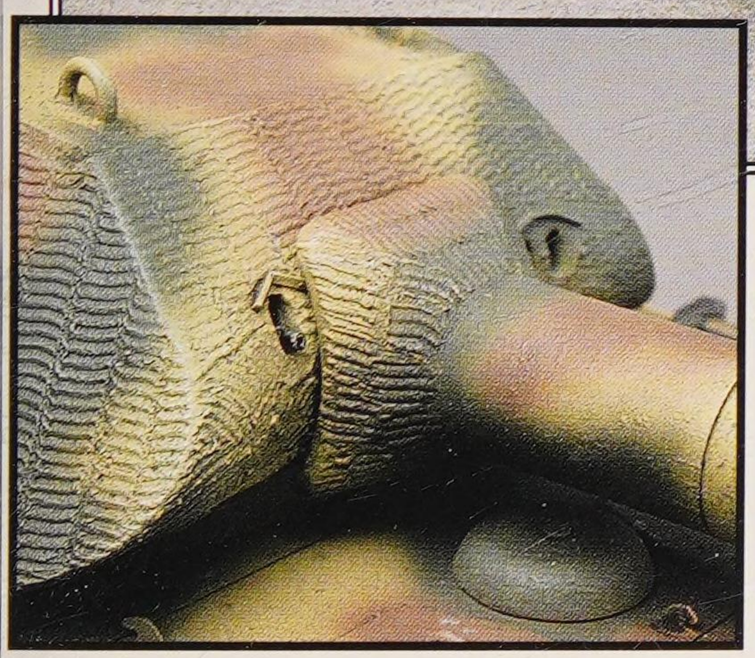
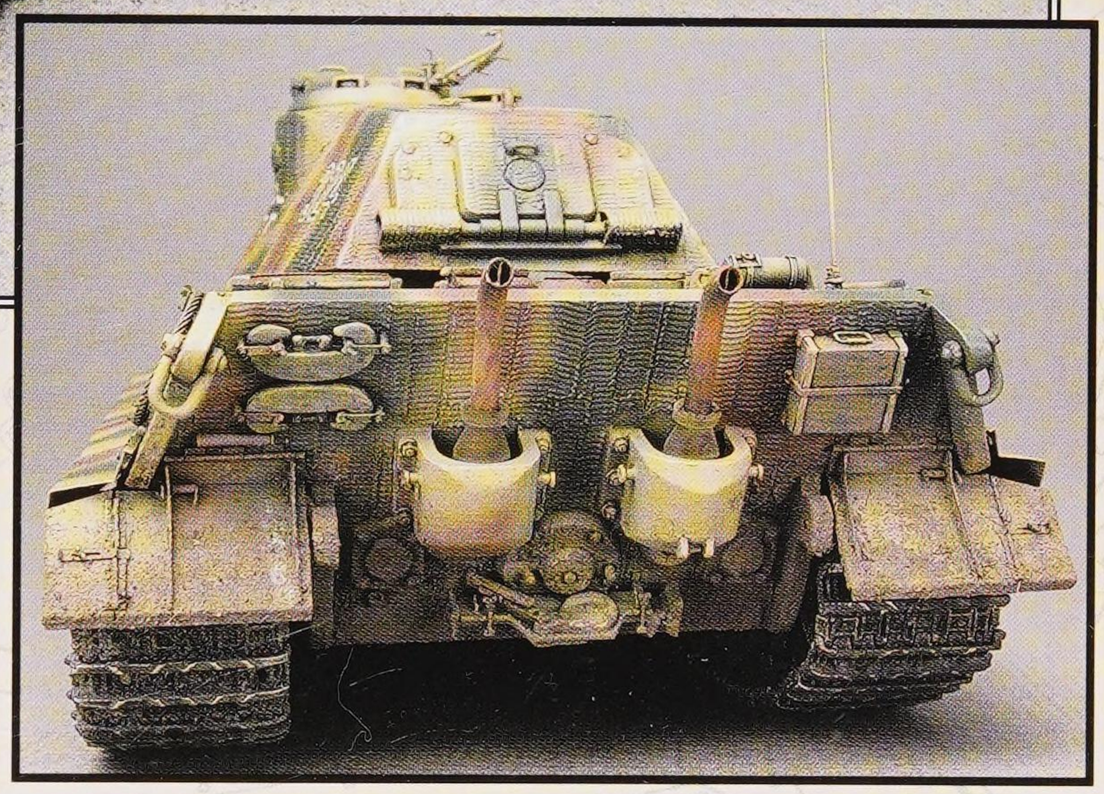
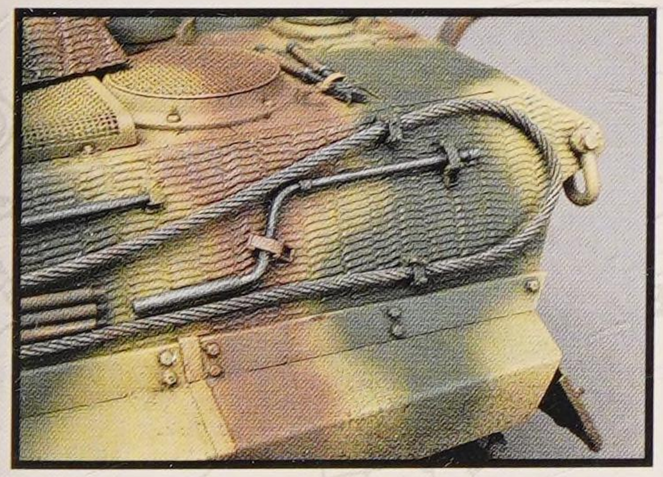
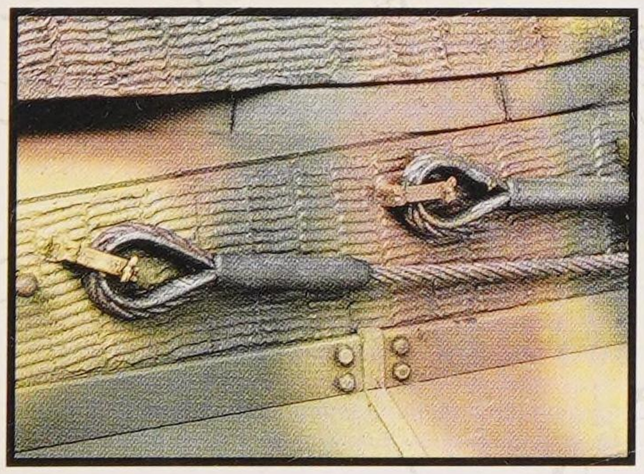
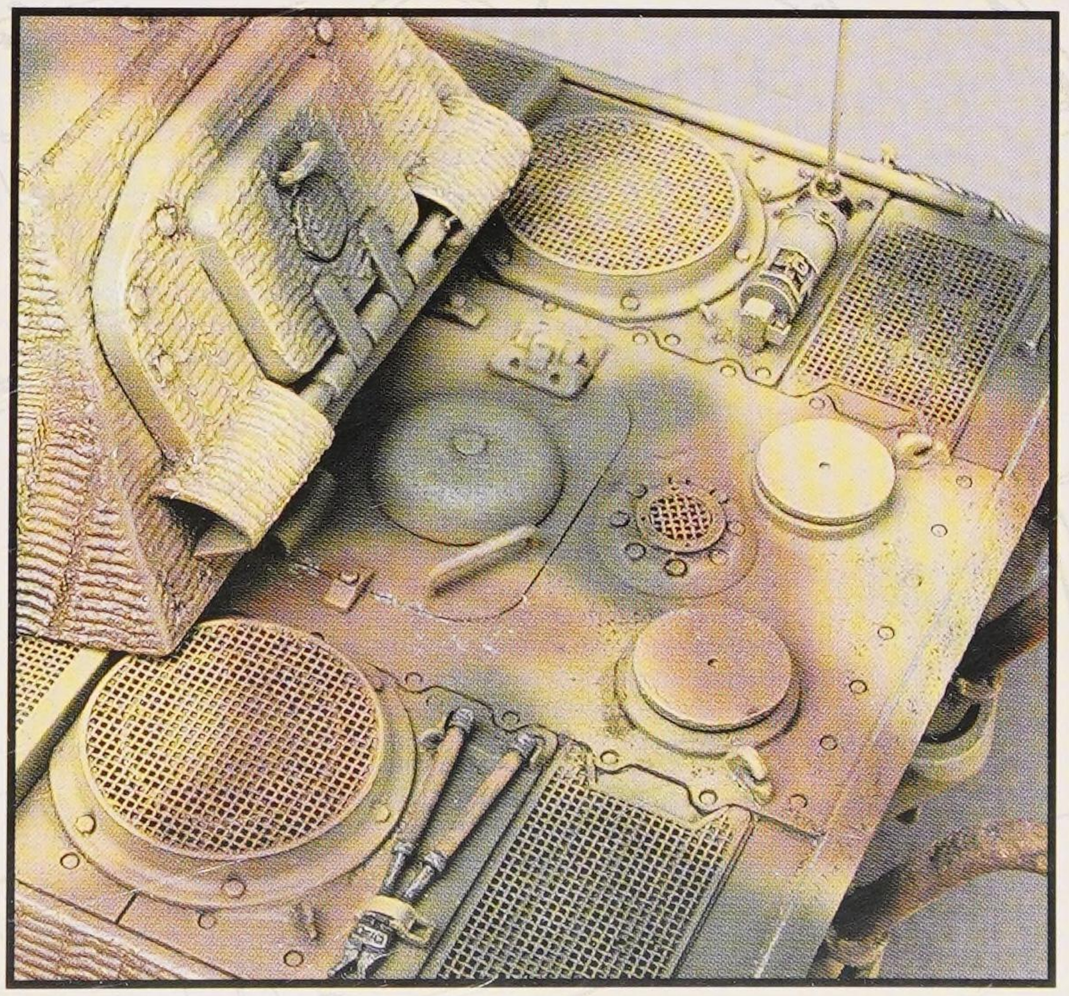
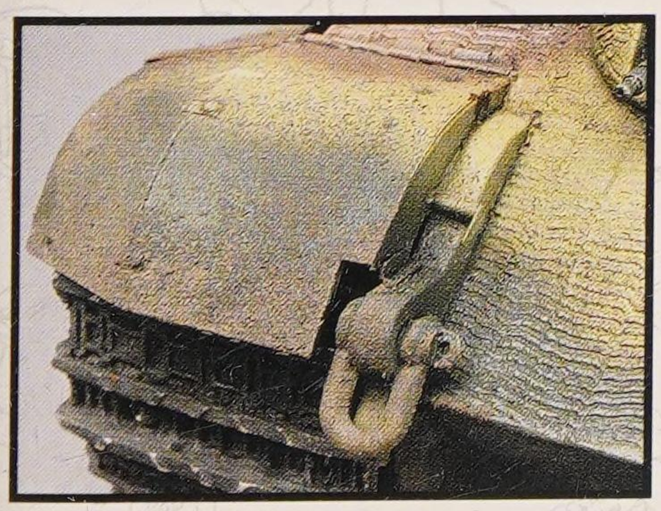


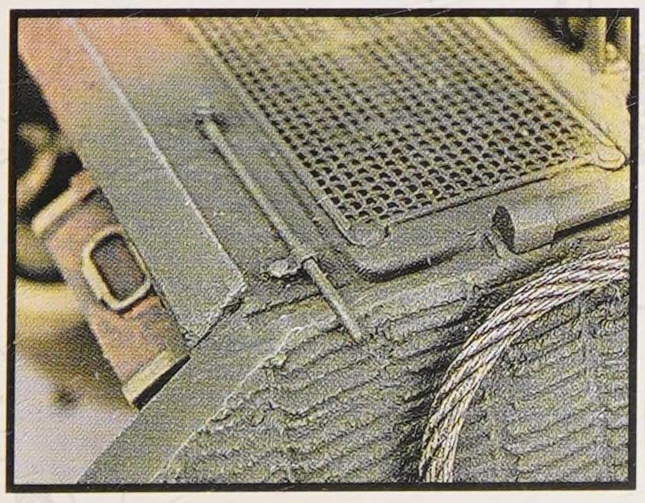




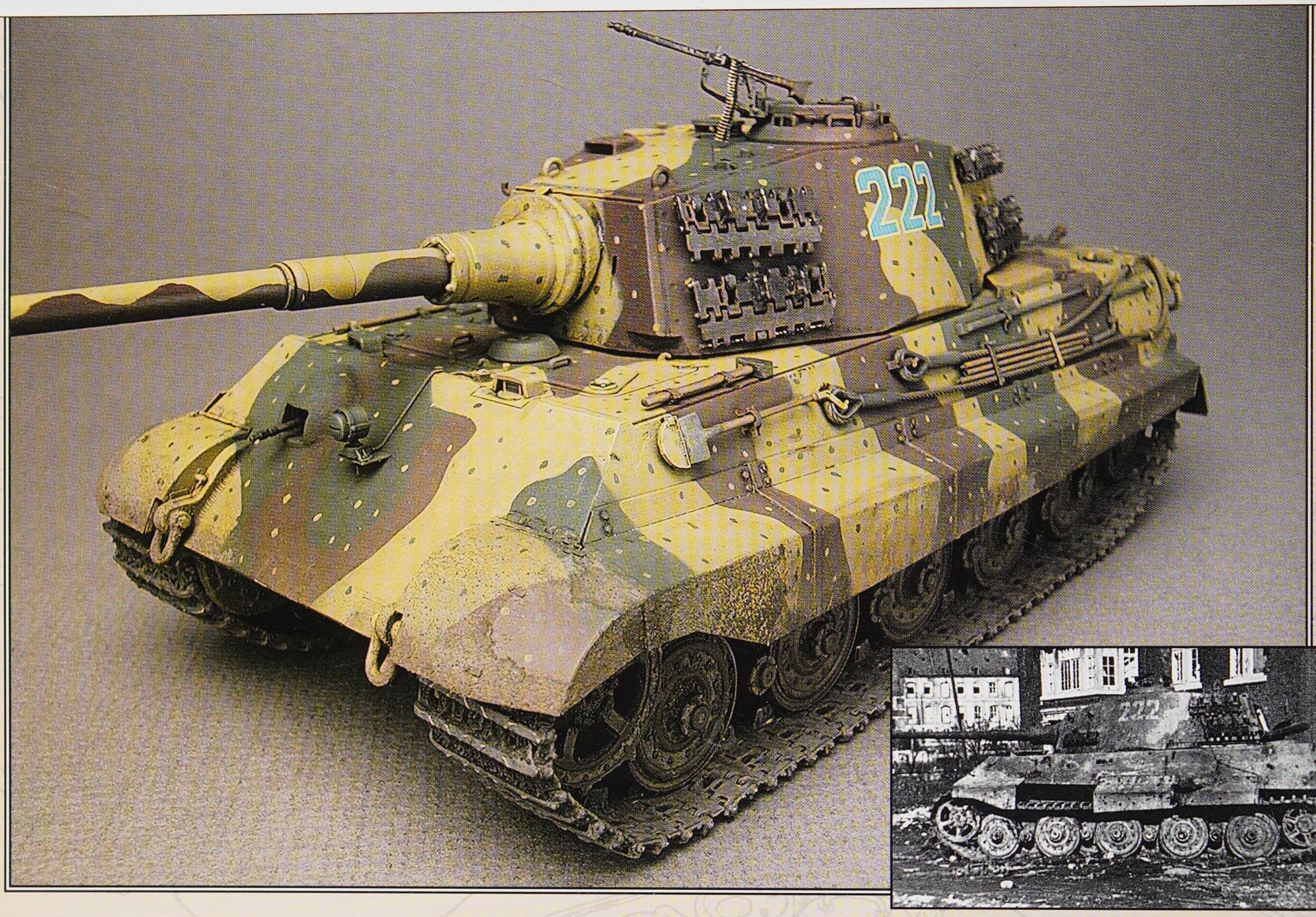








Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. 280302 of the 2.Kompanie, SS s.PzAbt. 501, December 1944



You may recall that after a thorough pasting throughout the fall of 1944, the SS 101 was reformed with the Tiger II and re designated as the SS s.PzAbt 501 in November of 1944. For the Battle of the Bulge they were part of the SS-Panzerregiment 1 of the 1st SS Panzer Division and were subordinated to Kampfgruppe Peiper for his swift dash towards Liege. There ain't nothing swift about a Tiger II, so Peiper made sure that the 501 was dead last in the column. This had a good result 50 or so years later, when it was discovered that the PK cameramen had a chance to extensively film these tanks as they moved ever forward. This must have been an irresistible sight as the tanks past through friendly territory and later, as prisoners moved back in the opposite directions. The tank that received the most attention appears to have been tactical number 222. Somewhere near the German border town of Deidenburg, they picked up a load of Fallschirmjäger from the F.S. Rgt. 9 and the photogenic factor soared (photo taken on December 18th). A movie cameraman caught 222 later that same day near Kaiserbaracke, between St. Vith and Malmedy (coincidentally, the movie cameraman also caught it during assembly in Tondorf on December 16th). All this picture taking culminated on December 19th near the town of Ligneuville on the road to Stavelot. Fun time ended when 222 took up a blocking position near a bridge in Stavelot so that tanks of the first company could assist in an attack on the nearby village of La Gleize. With heavy U.S. artillery blanketing the area, 222 was engaged by a tank destroyer and knocked out. According to records, the crew survived.

So, with all this info tucked under my arm, I set out to recreate 222. I selected this chassis number because I knew that it had been delivered to the 501 and that it was an early November production. This matched up well with some of the close-up photos.

This also puts it square in the midst of the new "hard-line" scheme instituted in early September. This is composed of Dunkelgrün and Dunkelgelb applied in hard contours directly over red oxide primer. It's a curious scheme to me as it always appears in illustrations to be the antithesis of camouflage. It's just so vivid. Many of the photos taken in the field show it heavily obscured by dirt and dust. Also, many of the shots are overexposed which obscures the pattern. Towards the end of this project, I came across new images of the Tiger II during this period. The tanks are fairly new in these shots and they confirm what I had always suspected, this paint job sticks out like a sore thumb.

I rendered this on the model by using Silly Putty to mask the scheme. There is more on this later in this section, but essentially one has to work backwards, masking off the base color first. To give me some idea of the pattern, I photocopied plans from the Jentz book and drew out several with a pencil. Once I was satisfied with my design, I was ready to begin. I started by spraying the model overall with XF-9, Hull Red. I then masked this off and applied the Dark Green, XF-61, then masked again and applied the Dark Yellow, XF-60. Each layer of masking was applied over the next and as soon as the last coat of paint was dry, all of the material was pulled off. Lastly, small dots of the three colors were carefully added to the pattern.

I had originally intended to build 332 of the 501 (the Aberdeen vehicle), but this turned out to be an earlier production vehicle. This is what is provided in the Tiger Mix #1, set 35155. But, no worry, the proper numbers for 222 are perfectly rendered in Archer set 35100.

I subsequently dulled down the pattern with light oversprays of XF-60 and XF-57.

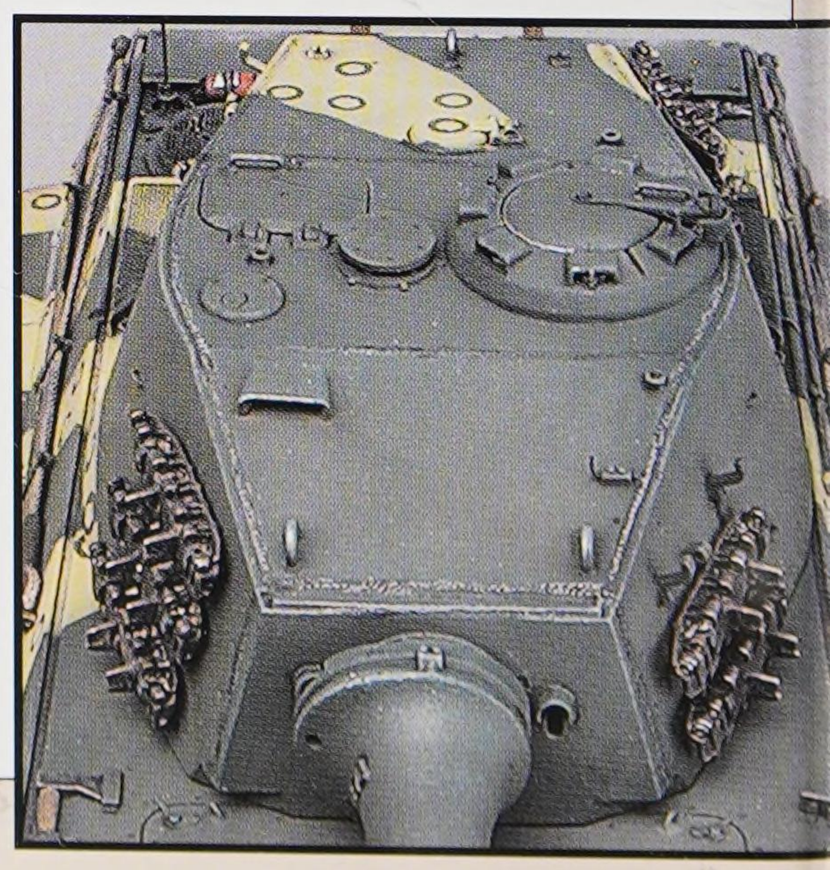
222
222

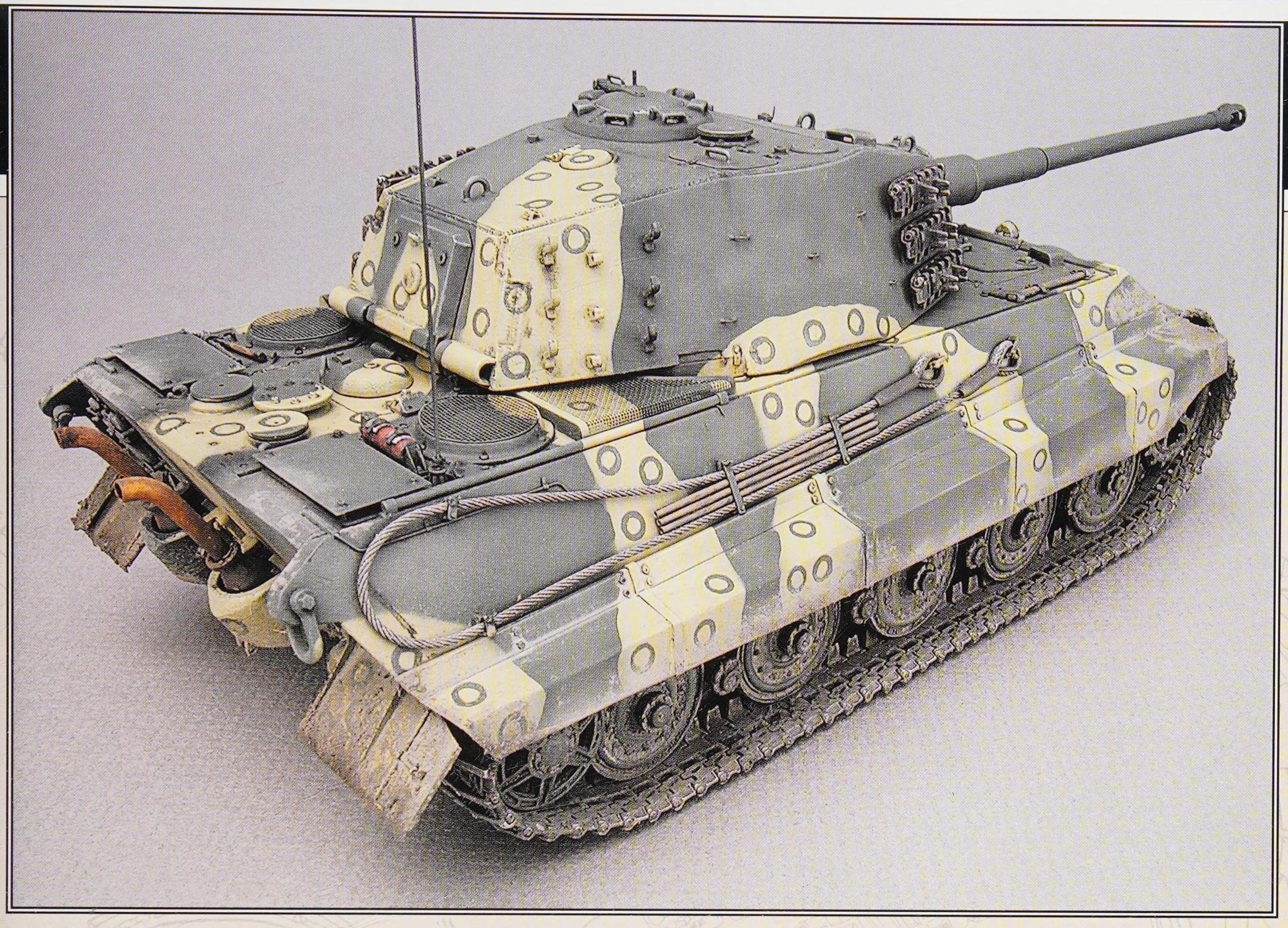
Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. 280485 of the 3.Kompanie, s.PzAbt. 510, March 1945

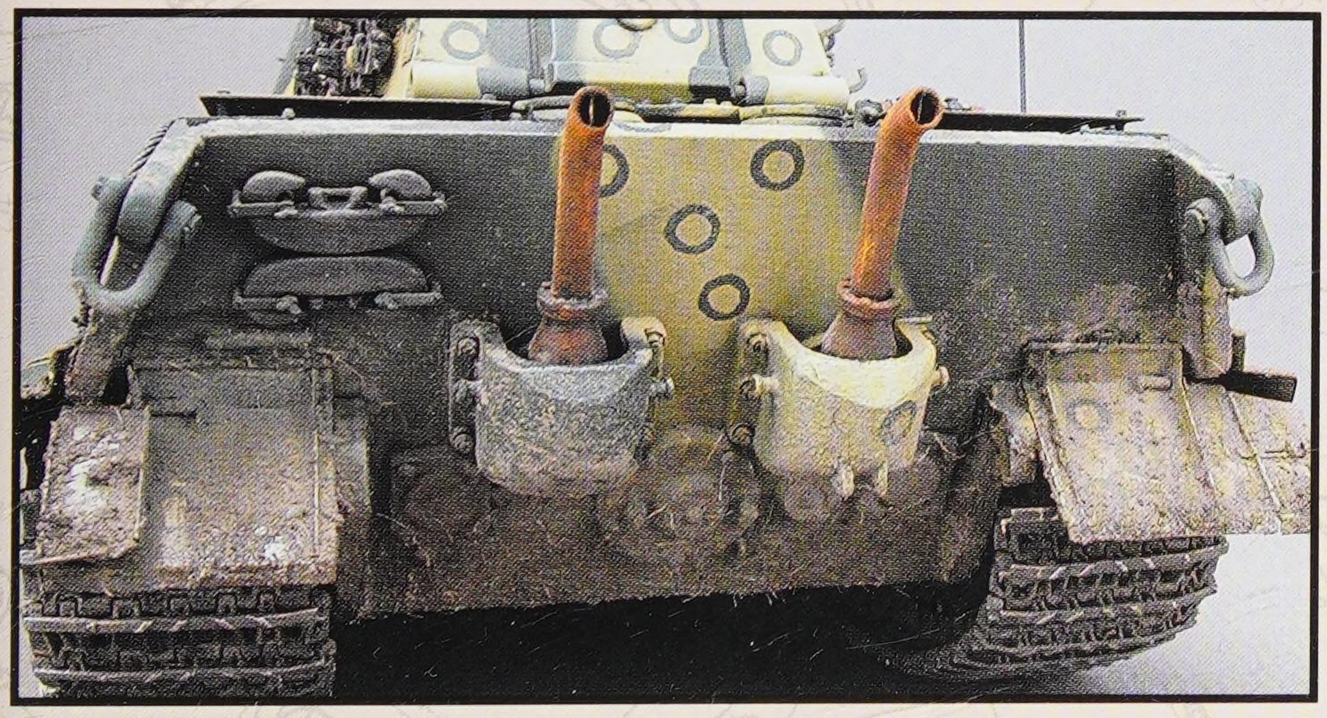
When I envisioned this particular model, I was bound and determined to render it with the late March '45 production turret. There are two pictures of this turret in the Jentz book and both were taken at Aberdeen after the war. At least one of these turrets and several hulls were taken back to the U.S. for evaluation. It seems almost certain that one of these turrets must have made it into combat, but as far as I know, no photos have ever been uncovered. This tank could actually be from one of three different units and my objective in determining which unit to attribute this tank to was to find the last unit to receive Tiger II's before the war's end. I figured if one of these turrets made it into the field, it would have been riding on one of the last tanks produced. Here's the run down according to *Tigers in Combat I.* s.PzAbt. 503: 5 new Tiger II's delivered on March 11th, 1945. s.PzAbt. 507: 11 new Tiger II's delivered on March 22nd, 1945. s.PzAbt. 510: 6 new Tiger II's obtained directly from the Henschel factory on March 29th, 1945. And the winner is: s.PzAbt. 510, of course.

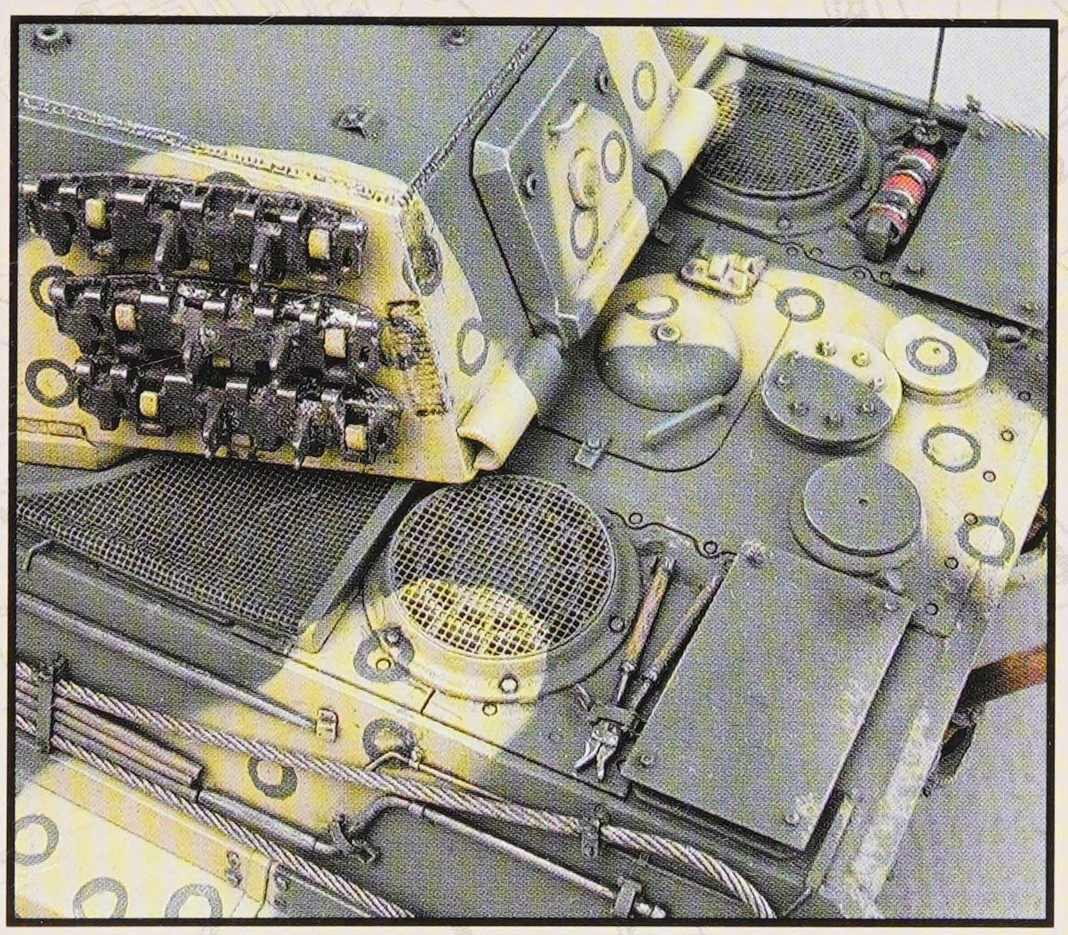
The Osprey title on the Tiger II, also authored by Jentz, attributes one of its color plates to a mysterious s.PzAbt. "511," but later explains that the s.PzAbt. 510 and this mystery unit were both involved in the delivery. I'm thinking that this gaff is for someone else to figure out and what I am primarily interested in is Peter Sarson's nifty color plate. Mr. Sarson has interpreted that the subject vehicle is painted in overall dark green with only bands of dark yellow applied. This harks back to an order issued in late November 1944. This order stated that armor components were to be painted in dark green and then oversprayed with dark yellow and red brown in sharp contours. This was to go into effect on March 1st, 1945. One thing not mentioned in the order is what is also seen in the few existing photos of these late tanks. This is irregularly shaped circles applied to the dark yellow, presumably of the dark green. Once again, due to the similarity of dark green and red brown in black and white film, Mr. Sarson could be wrong. However, something about this scheme smacked of haste and late war panic, so this is how I painted my model.

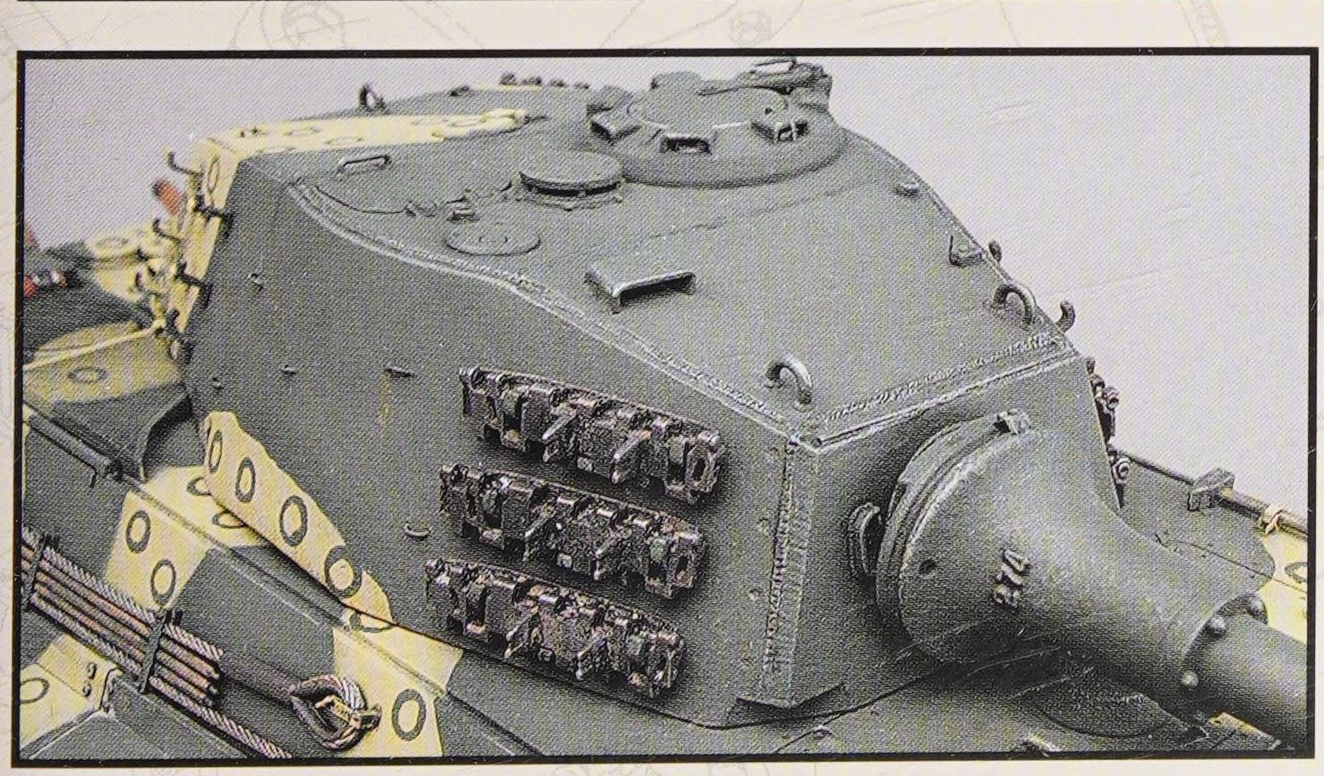
I cover both the painting and weathering of this model in the next section.

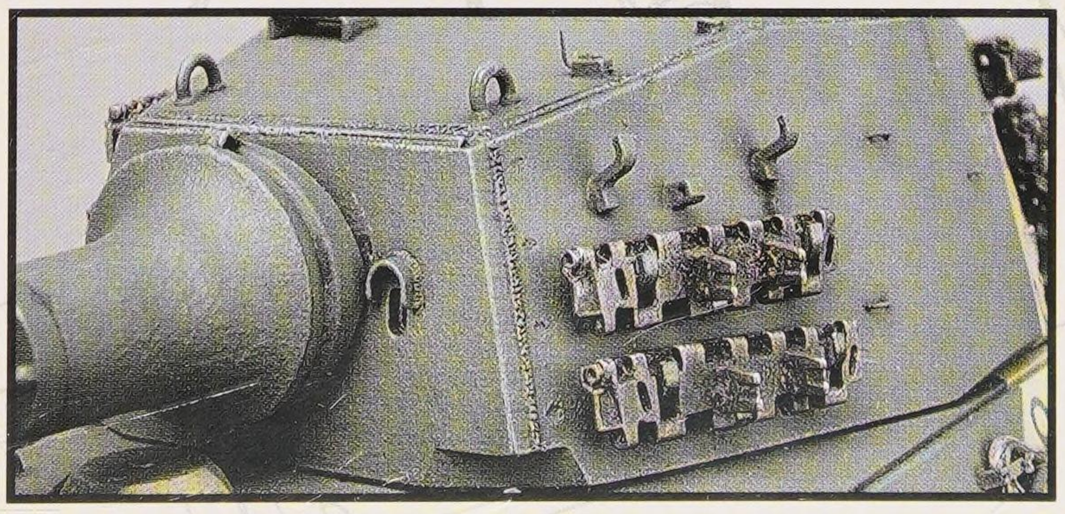






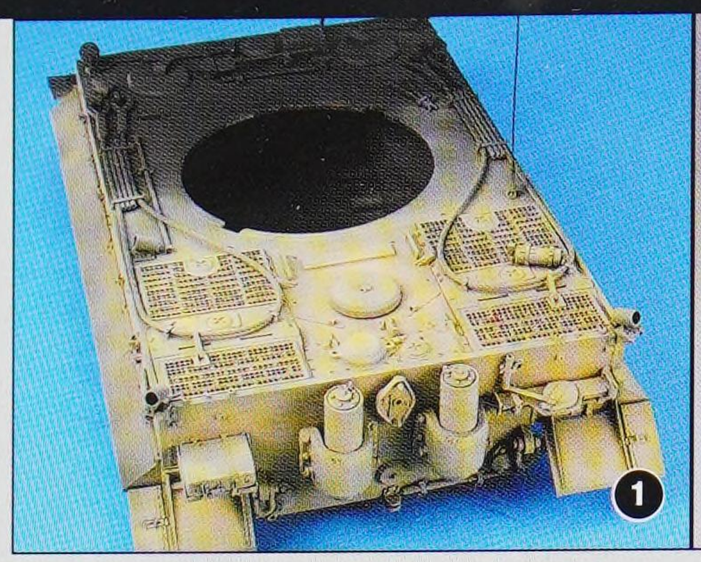






PAINTING AND WEATHERING

I thought that I would cover a few of my finishing techniques briefly here. I'm one of those guys who paints everything black first. I do this for two reasons. First, it allows me to build up the final tone of the model. Secondly, it helps me deliberately obscure certain areas, such as the lower hull. I want to draw the viewer's eyes towards all the hard work. The following photos illustrate the Tiger II on the previous page. Flipping back and forth may be helpful. Since this model is dark green, and the blackening technique would be hard to see, **photo 1** shows one of the dark yellow Tiger I's in progress. **Photo 2** shows the base coated Tiger II. This has been sprayed XF-61 over the black base coat. I always paint and weather roadwheels separately, and in this case, the fenders as well. O For the hard line scheme, I mask with Silly Putty. One of the great attributes of this material is its ability to settle around the smallest detail. For this reason I like to leave it on the model for a few hours prior to painting. **Photo 3** shows painting in progress. Note that I have masked all of the areas to NOT receive paint. This is typically the opposite when applying a multi color scheme such as that seen on the November Tiger II. I have used paper towel and Tamiya masking tape to cover the larger areas. **Photo 4** reveals the results. O One unique feature of this scheme is the circles of color on the dark yellow. I rendered these with masking tape disks and a slightly larger template (**photo 5**). I later hand painted them to make them look… well, hand painted. O I like to paint all of the tools after the final color scheme has been applied. This requires some careful work, but I am greatly assisted in this by several small sections of "Post-It" notes. These sections are easily slipped under the tools and prevent paint from marring the camouflage (**photo 6**). I go back and blacken all the tools prior to adding thin layers of Vallejo color to the handles. O All the metal effects on my tools are created using Prismacolor pencils (**photo 7**). These can be found in any good art supply store. I use the same masking method when using these pencils. I use the brighter silver on the tow cables (**photo 8**), then later tone it down with a wash of dark, reddish brown. The darker metallic color is used on most of the tool heads (**photo 9**). This is blended in using a rubber tipped "Clay Shaper" (also found in good art supply stores). The brighter silver is also used for creating the wear on steel roadwheels (**photo 10**). O The finished model, prior to weathering, is seen in **photo 11**. To tone down and unify the scheme, a light over spray of Tamiya Buff (XF-57) and Flat Earth (XF-52) is added. O Much has been written on applying washes, so I won't bore you with it here. Suffice it to say that I use Winsor & Newton black and burnt umber suspended in Testors Model Master thinner. While the model is still damp, a slightly thicker mixture is added on bolt heads and other small details. The over spray and the wash have been added in photo 12. O **Photo 13** shows all the gear I use to make mud and muck. I favor the larger bags of powdered pigments by Hudson & Allen, although I like to use the little bottles for tinting. It's very important to use a bonding agent like acrylic matte medium (on the right in photo 13). This bonds the pigment to the model, but dries flat. Acrylic matte medium is very forgiving. Although it does cause the material to adhere, it can still be reworked or removed with a wet brush. My technique is "dry on wet," meaning that I add dry pigment to the model already wet with a thinned mixture of the medium. Keeping a good-sized pile of the powder handy, I first wet the area (**photo 14**) then tap on the powder (**photo 15**). Immediately rubbing it off creates the packed mud effect seen in **photo 16**. Separately mixing thicker amounts of these ingredients will result in the example seen in photo 17. Stippling with an old brush is the method I use to make the larger muddy areas on the lower hull and fenders. I also add brown static grass to the wet model and then stipple over it with more of the mud mixture. As a final touch, a light spray of Tamiya Clear is applied to certain areas (**photo 17**). This will darken the mud without initially making it glossy, although subsequent applications will create sheen. This overall mud technique was used on almost all the models in this book and it can be toned way down or used very heavily. One such example of a heavy "mud job" is the June 1944 Tiger I.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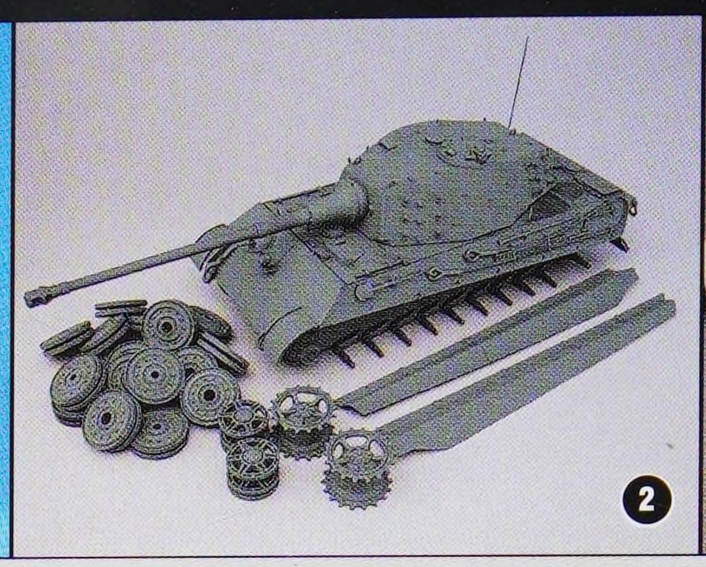
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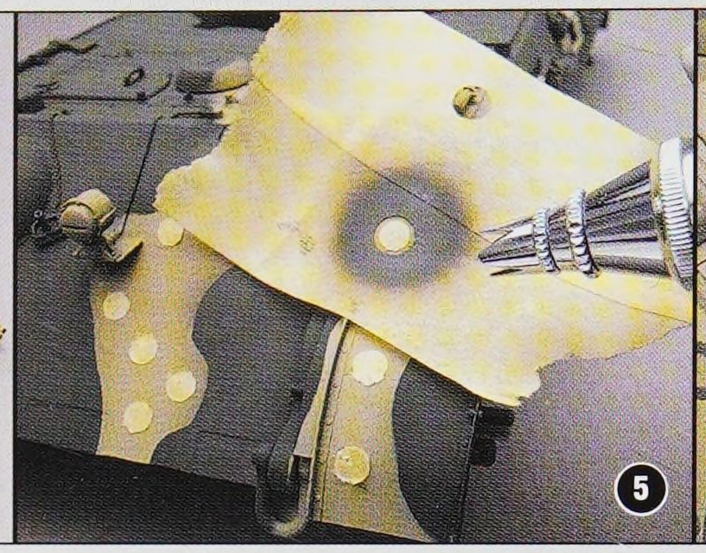
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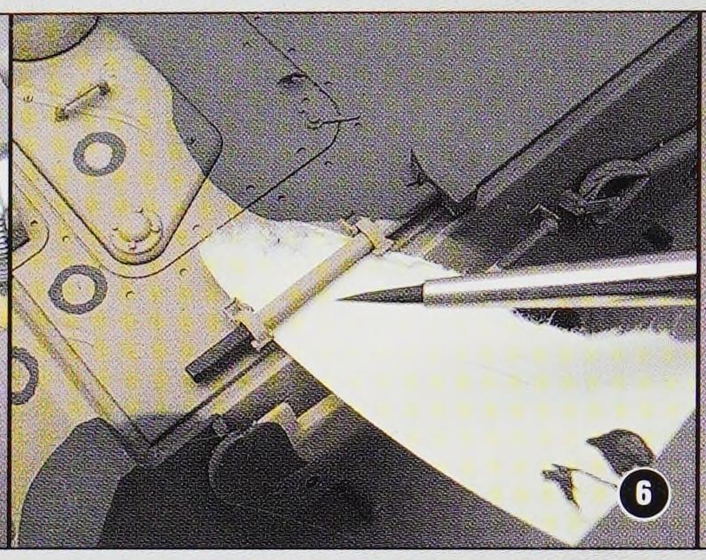
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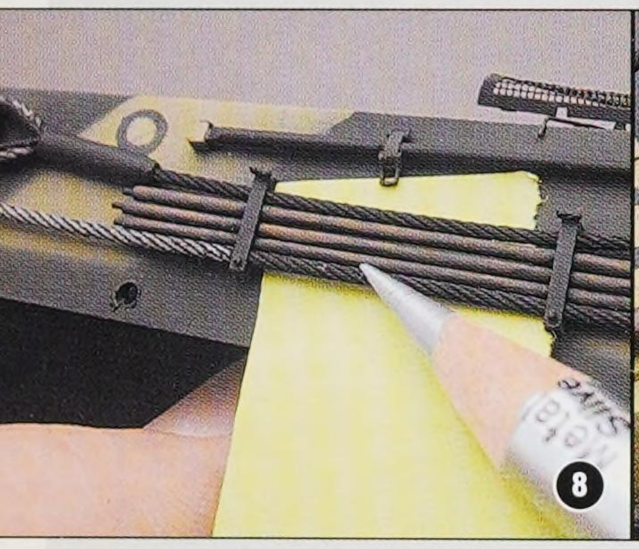
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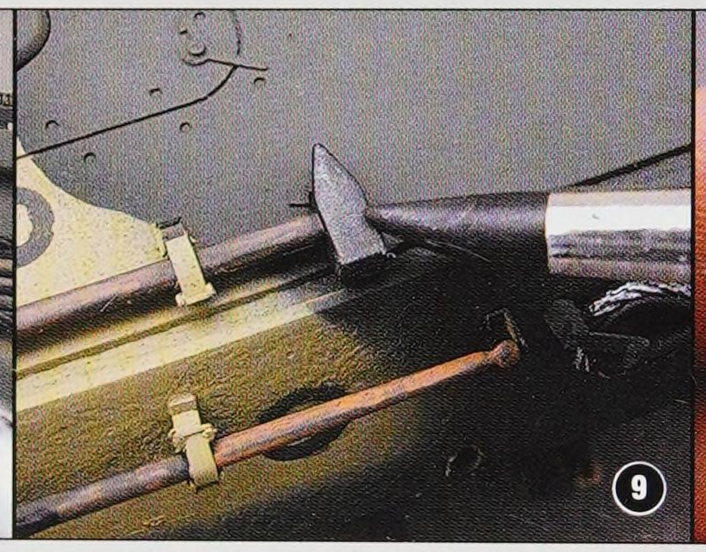
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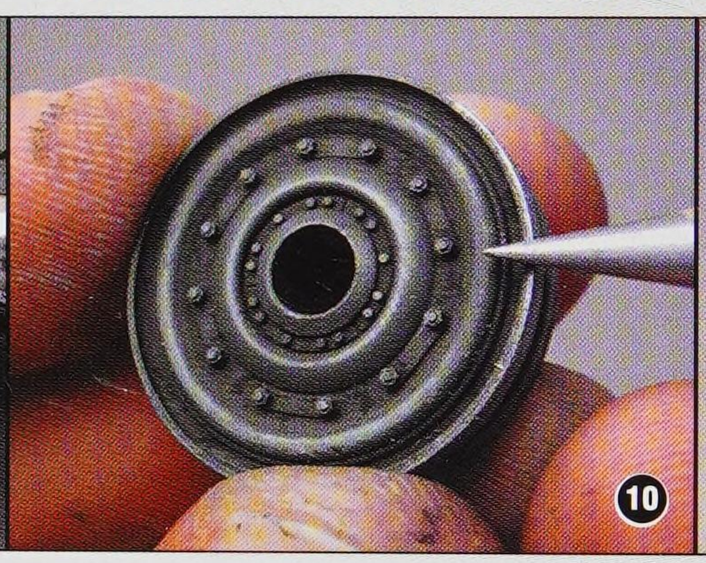
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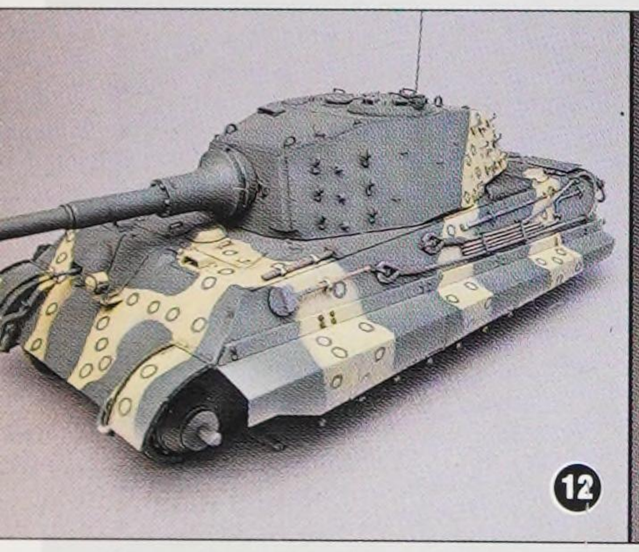
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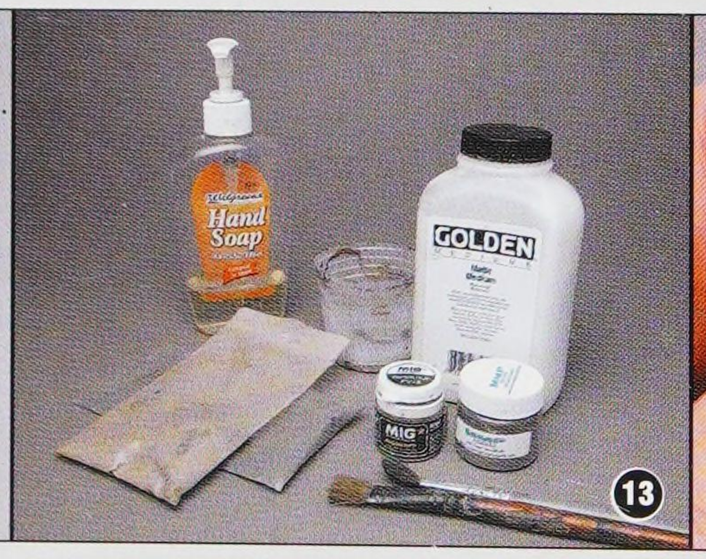

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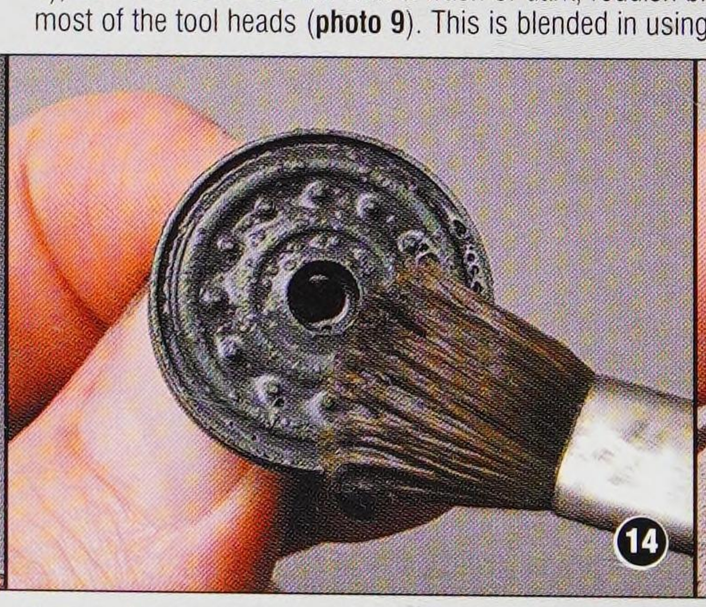
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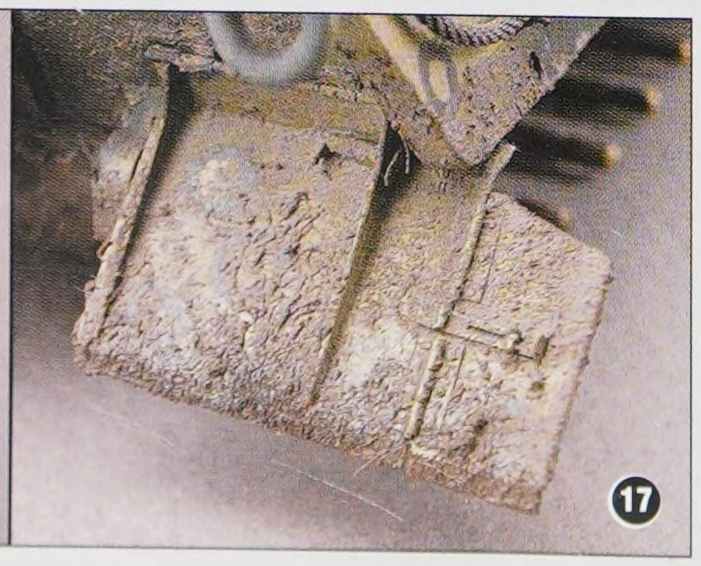
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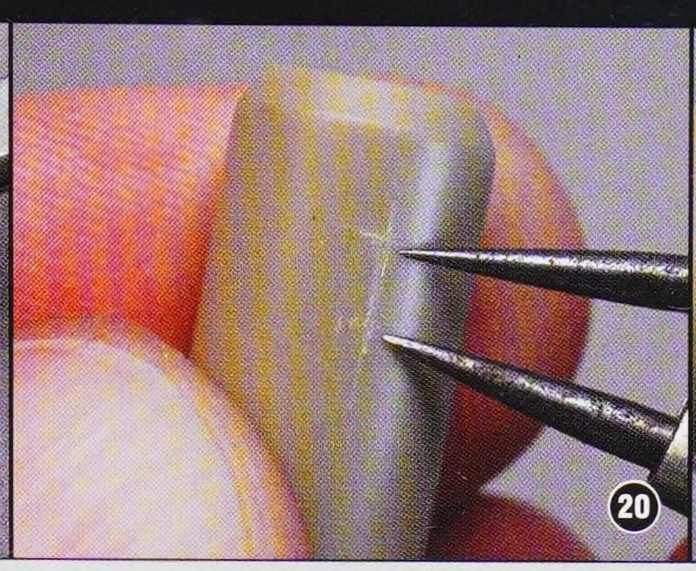
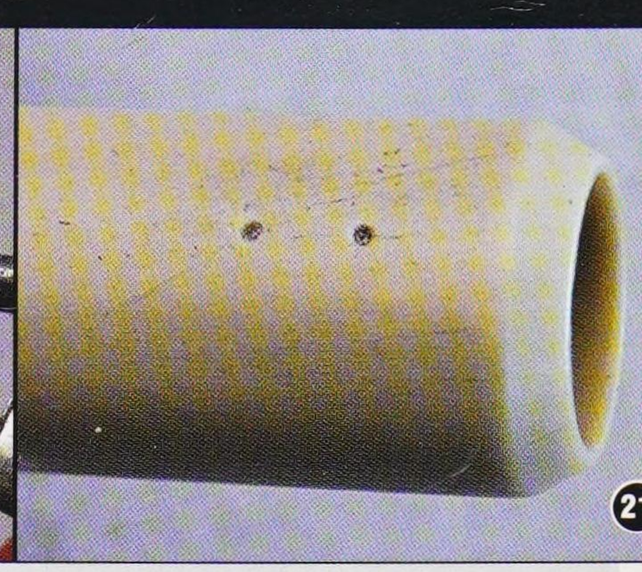
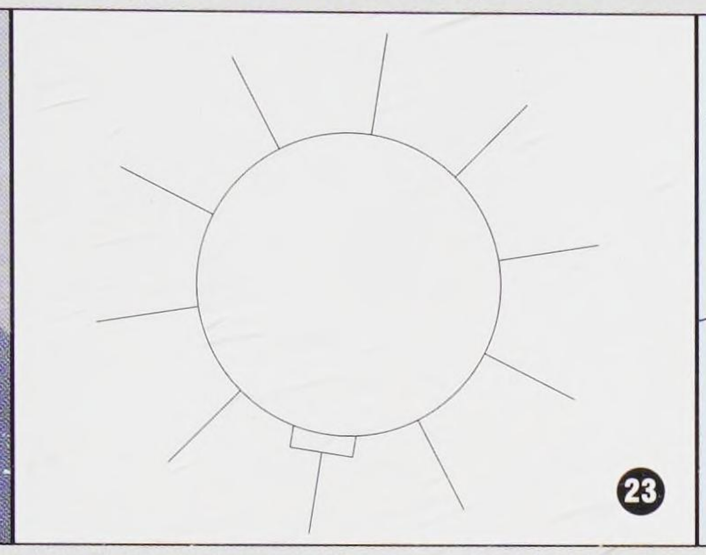
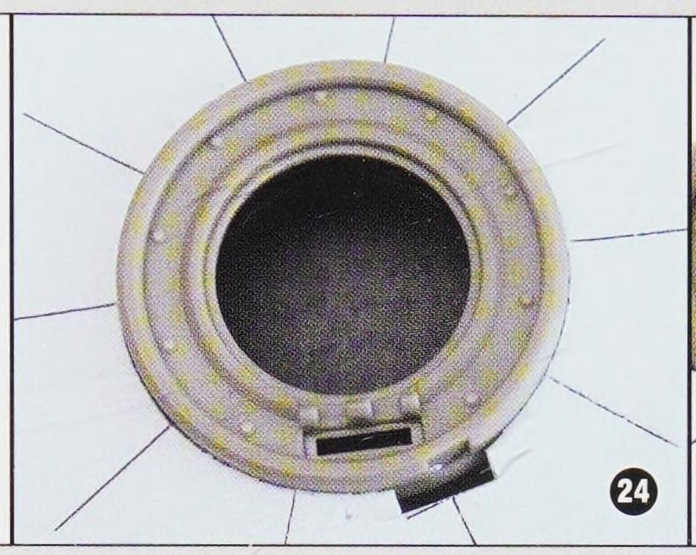
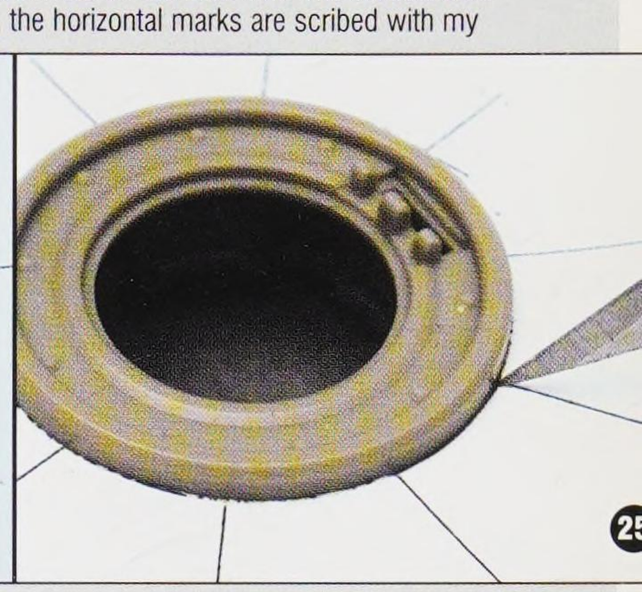
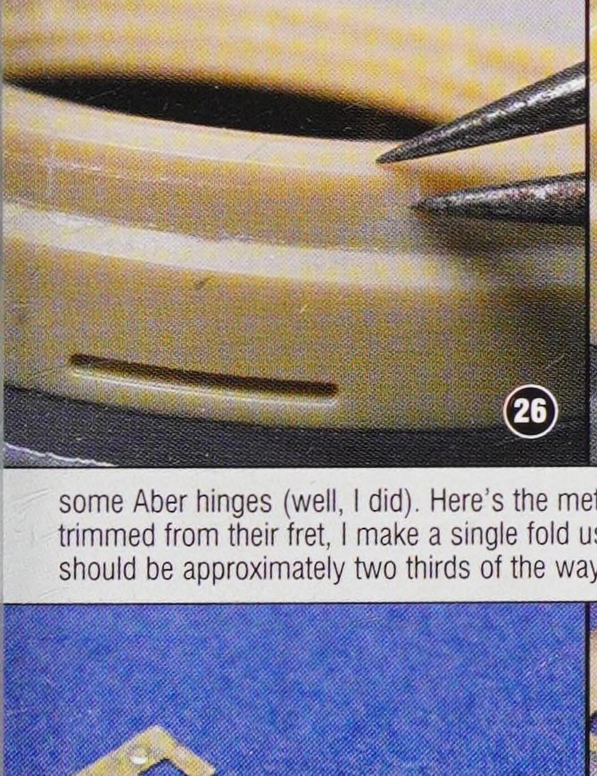
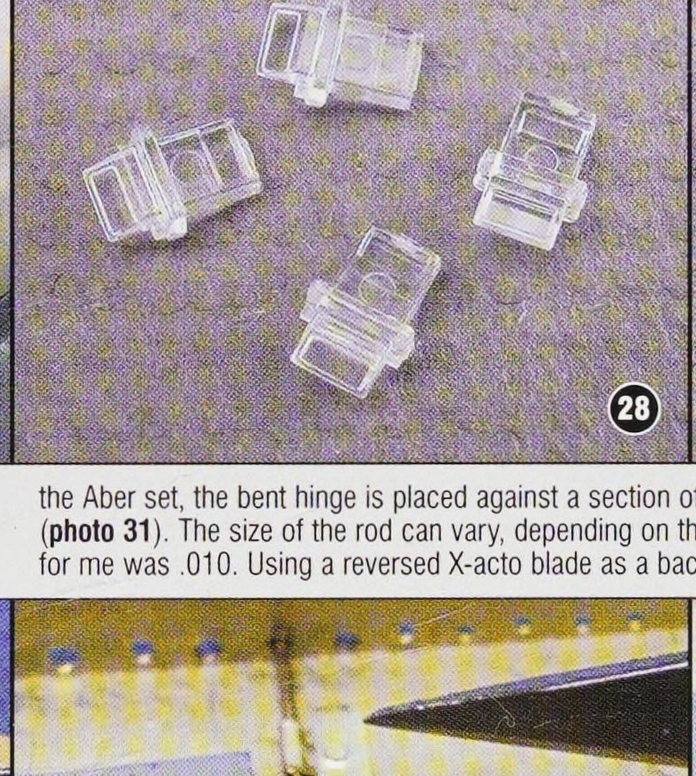
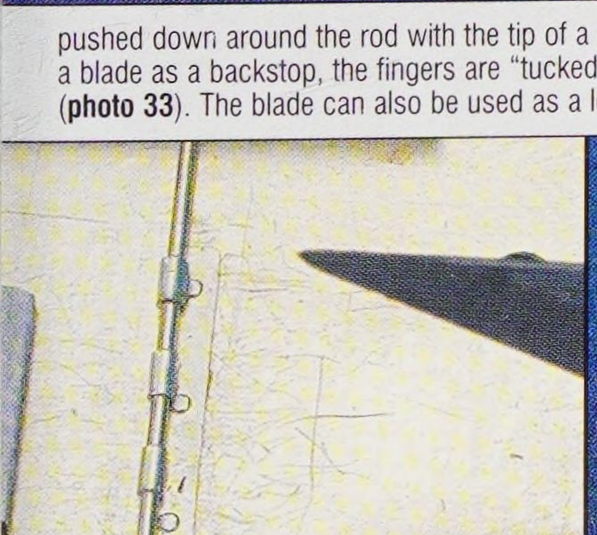
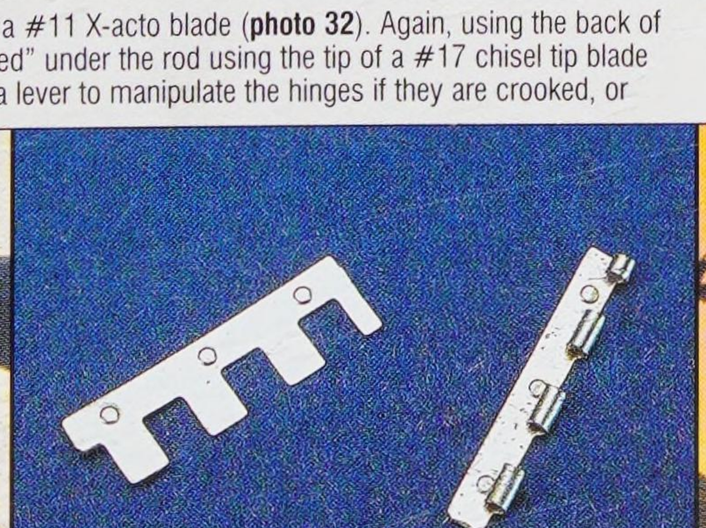
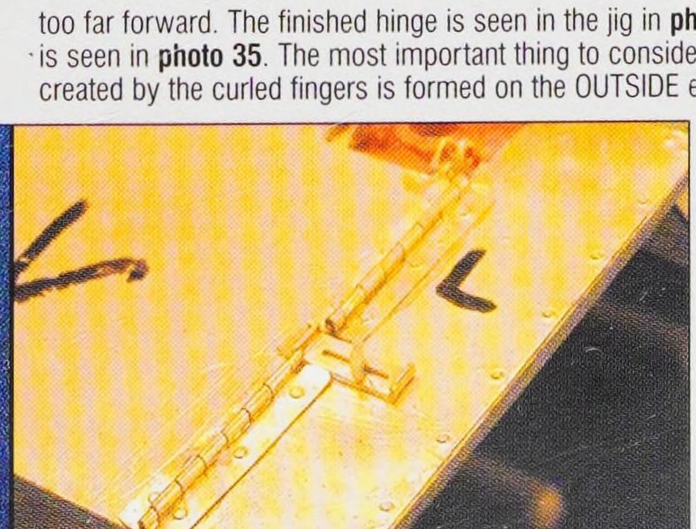
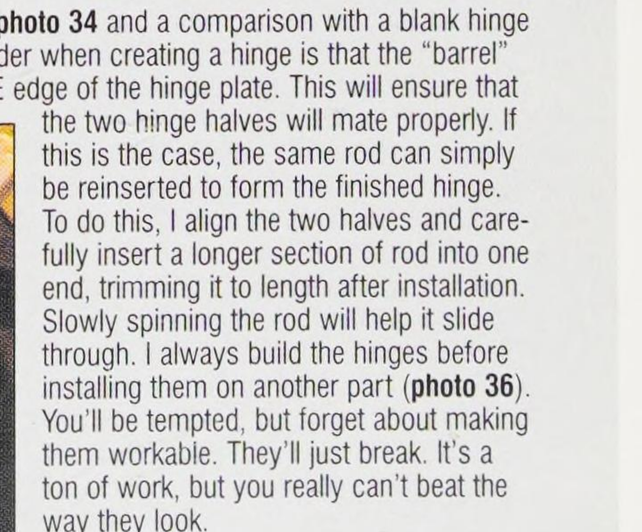
General Construction

Here are a few of the repetitive things that I did throughout this project. It didn't make sense to call them out in every section, but I thought they deserved a closer look. O All of the plastic kits of the Tiger I are missing the two screw holes in the gun sleeve. These are very small, but they can be rendered. I used my dividers to mark out the position of the screws on the sleeve **(photos 19 & 20)**. It's then just a matter of dimpling the intersections with the pointed end of the dividers and then enlarging each hole with a small drill bit. I have exaggerated them slightly for demonstration purposes (no, really) in **photo 21**. O The early, drum-shaped cupola of the Tamiya Tiger I lacks its very noticeable drain holes **(photo 22)**. These are located high on the rim of the cupola. I made a template on my computer to mark these off. I have provided this for you to photocopy in **photo 23**. First, I cut out the center of the template and the small notch for the hinge stop (if it's installed). The marks for the holes should be centered between the small rivets on the inner rim. The vertical locations are scored with a knife as seen in **photo 25**. Then, the horizontal marks are scribed with my dividers (**photo 26**). Again, the intersections are drilled with a small bit and the results are visible in **photo 27**. These holes actually go all the way though the rim of the cupola, but the tolerances on the Tamiya part don't allow enough room to get there. O All of the later Tiger I's and the Tiger II's received FineMolds clear periscopes (**photo 28**). The backs of the periscopes were painted silver and when dry, the fronts were outlined in flat black. I also used the larger type in the front hatches of all the Tiger I's. O Most people run screaming into the streets when confronted with building the awe-some Aber hinges (well, I did). Here's the method I've developed. Once the hinge sections have been trimmed from their fret, I make a single fold using the Etch-Mate bending tool (**photo 30**). This bend should be approximately two thirds of the way down on the hinge fingers. Using the jig provided in the Aber set, the bent hinge is placed against a section of rod that as been inserted through the jig (**photo 31**). The size of the rod can vary, depending on the size of the hinge, but the most common for me was .010. Using a reversed X-acto blade as a backstop, the fingers of the hinges are carefully pushed down around the rod with the tip of a #11 X-acto blade (**photo 32**). Again, using the back of a blade as a backstop, the fingers are "tucked" under the rod using the tip of a #17 chisel tip blade (**photo 33**). The blade can also be used as a lever to manipulate the hinges if they are crooked, or too far forward. The finished hinge is seen in the jig in **photo 34** and a comparison with a blank hinge is seen in **photo 35**. The most important thing to consider when creating a hinge is that the "barrel" created by the curled fingers is formed on the OUTSIDE edge of the hinge plate. This will ensure that the two hinge halves will mate properly. If this is the case, the same rod can simply be reinserted to form the finished hinge. To do this, I align the two halves and carefully insert a longer section of rod into one end, trimming it to length after installation. Slowly spinning the rod will help it slide through. I always build the hinges before installing them on another part (**photo 36**). You'll be tempted, but forget about making them workable. They'll just break. It's a ton of work, but you really can't beat the way they look.

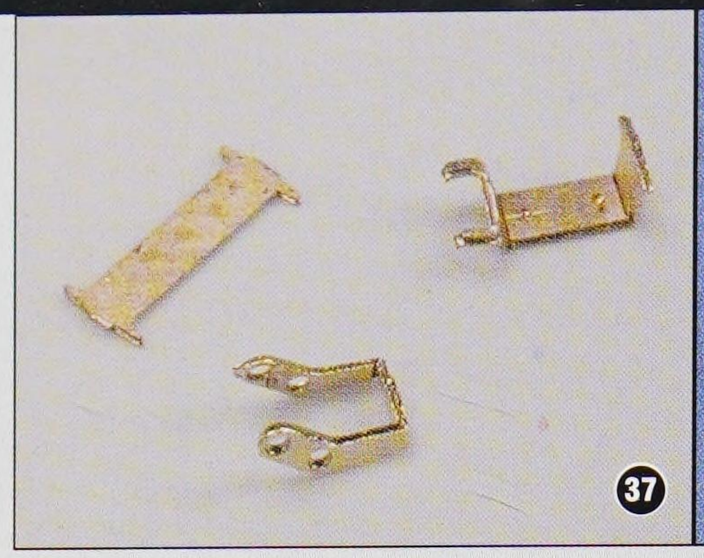





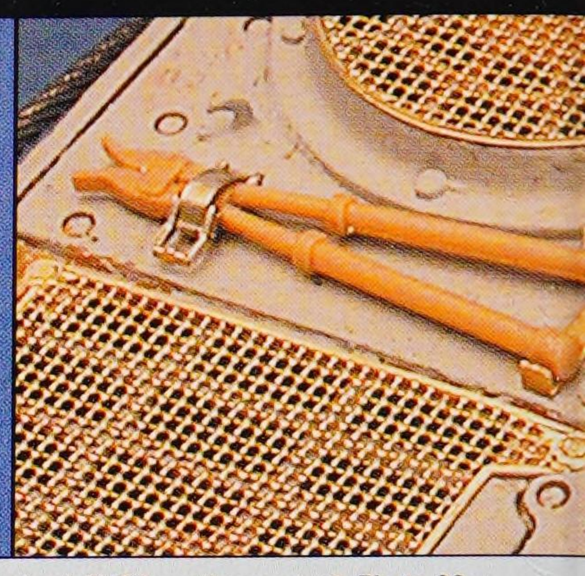


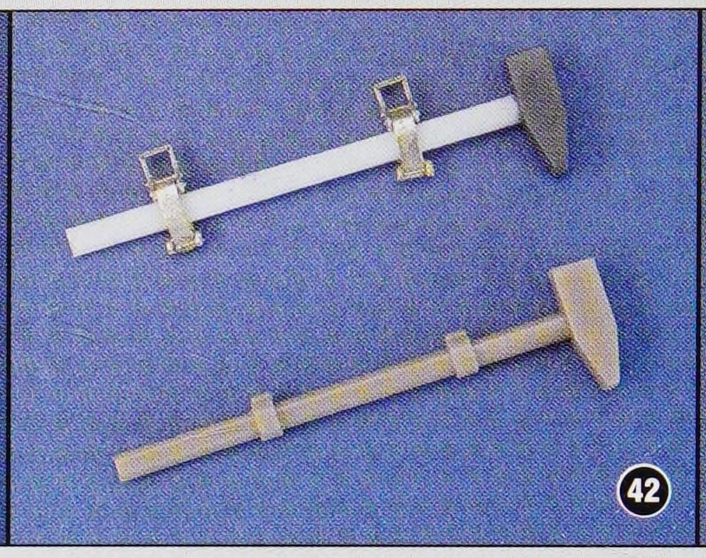
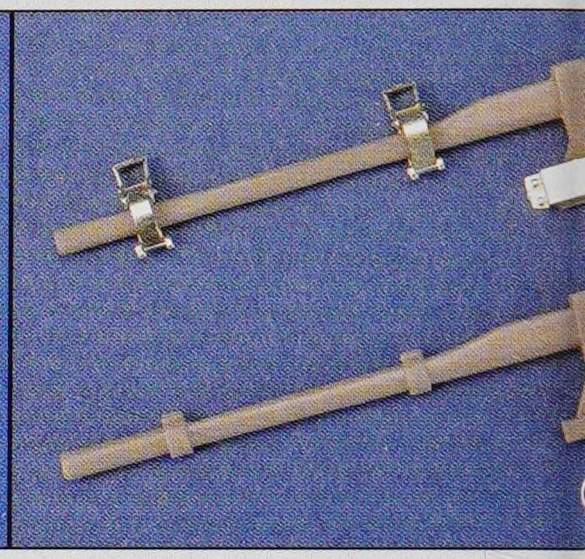





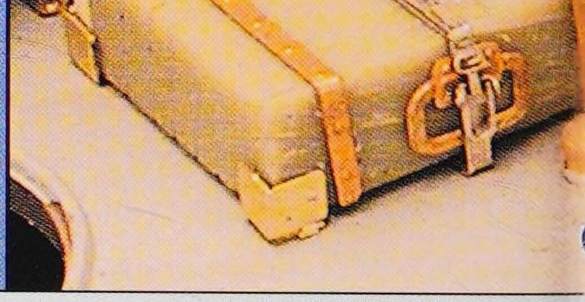
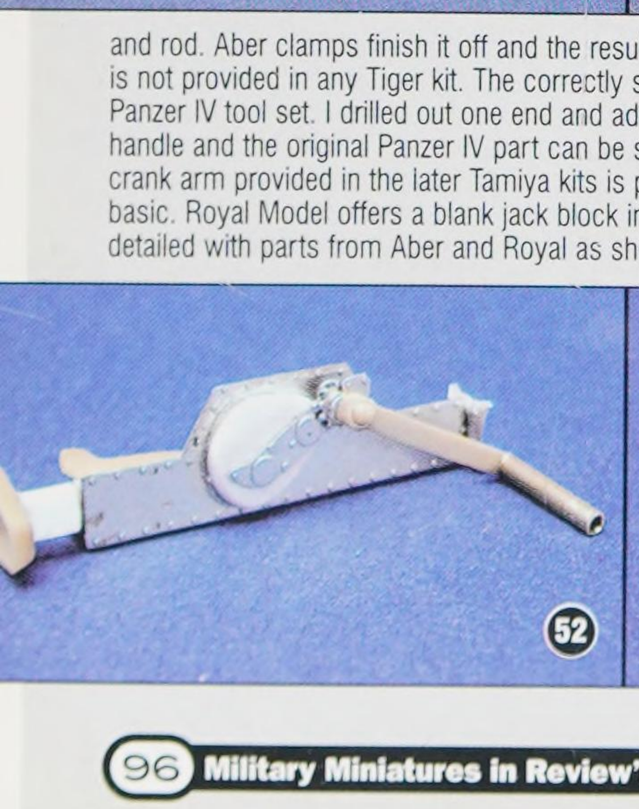
Tools, Tools and More Tools

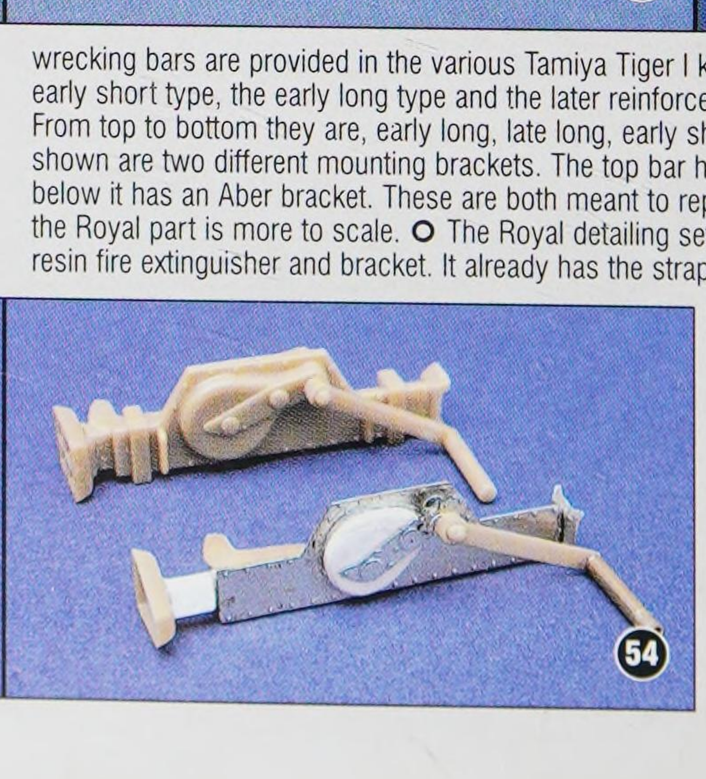
All of the tools mounted on the models in this book were modified in some way. I wanted to find what I regarded as the best possible option out there for each tool. All the tools shown here are for the Tiger I (taken from the Tamiya kits and the Panzer IV set), but the tools that were mounted on the Tiger II are in many cases identical. German armored vehicles of WW2 all had similar, standardized tool mounting clamps. In the modeling world, there have been many attempts to replicate these and all involve some very small parts, but none have come quite so close as those in the Aber etched sets. The basic components of the Aber clamp are shown in **photo 37**. There are three parts and each gets bent in some way. The holes in the u-shaped handle engage the small pins in the other parts and this is the biggest advantage of these teeny sub assemblies. A part super glued INTO another part is infinitely stronger than a part super glued ONTO another part. O **Photo 38** shows the bolt cutters. For these I used a pair from the Panzer IV tool set and new handles were formed from brass rod. **Photo 39** shows my slightly more accurate mounting on the Tiger II. O For the shovel, I used a handle from the Panzer IV tool set because the molded on clamp is teeny and easy to remove. The head is from Aber and it was curved along its length before installing it on the handle. The section where the rivets are should conform tightly to the handle (**photo 40**). The small container for the shovel's head is formed from Aber parts (**photo 41**). O For the sledge hammer, rather than carve off the molded-on clamps, I simply made new stock for the handles from styrene rod. The actual handles are oval in profile, so Evergreen rod was carefully scraped with an X-acto until it was slightly flat on one side. It was then flipped over onto the flat side and scraped again (making the sides more or less even). A small amount of wet sanding smoothed everything out. The results are shown in **photo 42**. O The axes are pretty simple, just requiring their clamps and a small holder for the ax head as shown in **photo 43**. O Tiger I's used a two-piece crank handle. The shaft was mounted on the bottom of the rear hull plate. This part (minus the crank handle) is only provided in Tamiya's early production Tiger I, so I remade the entire part with various sections of brass tube and rod. Aber clamps finish it off and the result is shown in **photo 44**. The handle for the crank arm is not provided in any Tiger kit. The correctly shaped arm for the handle can be found on the Tamiya Panzer IV tool set. I drilled out one end and added a length of plastic rod to the other. The finished handle and the original Panzer IV part can be seen in **photo 45**. By the way, the one piece handle and crank arm provided in the later Tamiya kits is pure fiction. O The kit supplied jack block is very basic. Royal Model offers a blank jack block in its Tiger I and II detail sets. This resin part was detailed with parts from Aber and Royal as shown in **photo 46 & 47**. O Several different types of wrecking bars are provided in the various Tamiya Tiger I kits. They have correctly depicted the very early short type, the early long type and the later reinforced type. These are all seen in **photo 48**. From top to bottom they are, early long, late long, early short and the late, long stock kit part. Also shown are two different mounting brackets. The top bar has a bracket from Royal, while the bar just below it has an Aber bracket. These are both meant to represent the same part and one can see that the Royal part is more to scale. O The Royal detailing sets for the Tiger also include a very nice resin fire extinguisher and bracket. It already has the strap and the handle molded on. The bracket was modified slightly. A small piece of plastic was used to close off the top of the nozzle housing and a small piece of etched brass was used to form a guard for the valve located on the front of the extinguisher. The finished part is compared with the stock one in **photo 49**. O Early Tiger I's mounted a larger, additional shovel on the top of the front glacis plate. Due to the curved nature of its head, the front end of the shovel was held off the hull with a clamp installed on a raised







bracket. The Tamiya shovel is seen detailed in photo 50. O Aber provides parts to scratch build both the 15 and 20-ton versions of the jack in its Tiger etched sets. An even more detailed version can be found in their "super" set for the Tiger I, which is what I am using here. Aber provides parts for the base of the jack, along with foot and head pieces, the crank handle and a few other parts. The large, raised portions on either side must be made from sheet styrene. All told, each jack is composed of 13 small parts and these can be seen laid out in **photo 51**. I used a thinned down version of the Tamiya crank handle detailed with brass tube, as well as the plastic foot and base parts. The results are seen in **photos 52 & 53** and a comparison is seen in **photo 54** (this is the 15-ton version). The 20-ton version is installed on a Tiger I in **photo 55.** O All of the C-shaped towing hooks were detailed with either Aber or Royal parts, as shown in **photo 56**. O One of the few parts that is completely different on the Tiger II is the one-piece starter crank. Formed from sections of brass rod and tube, it is seen in **photo 57**.

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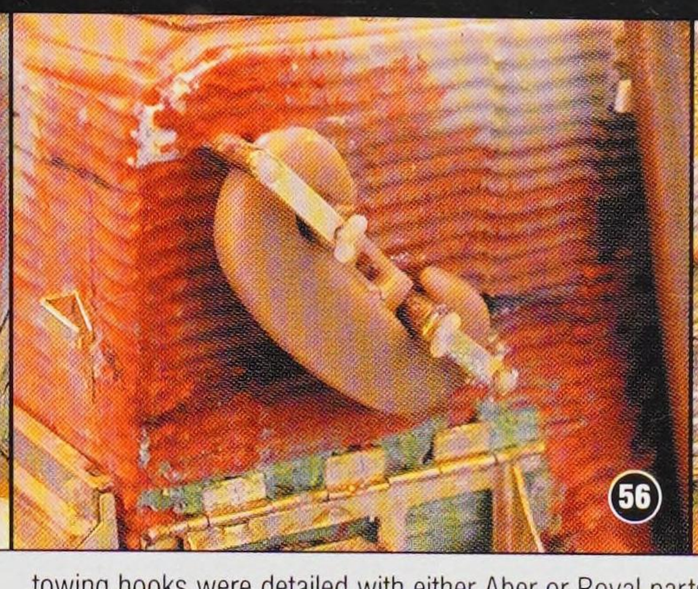
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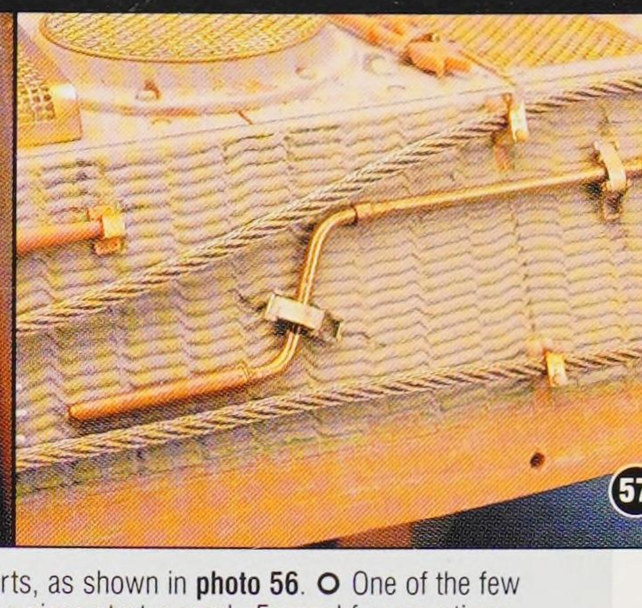
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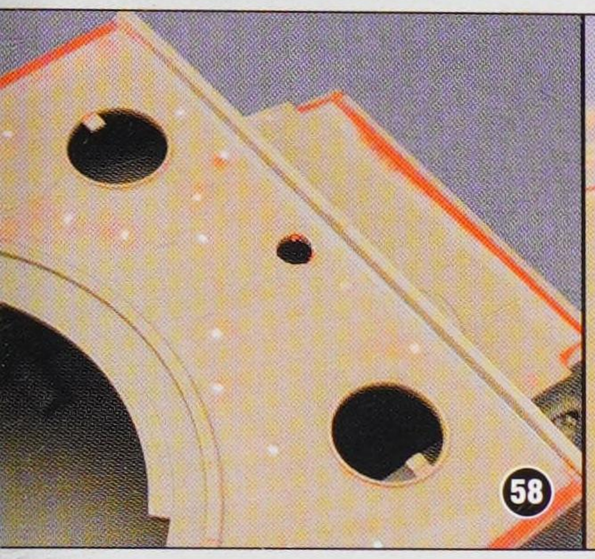
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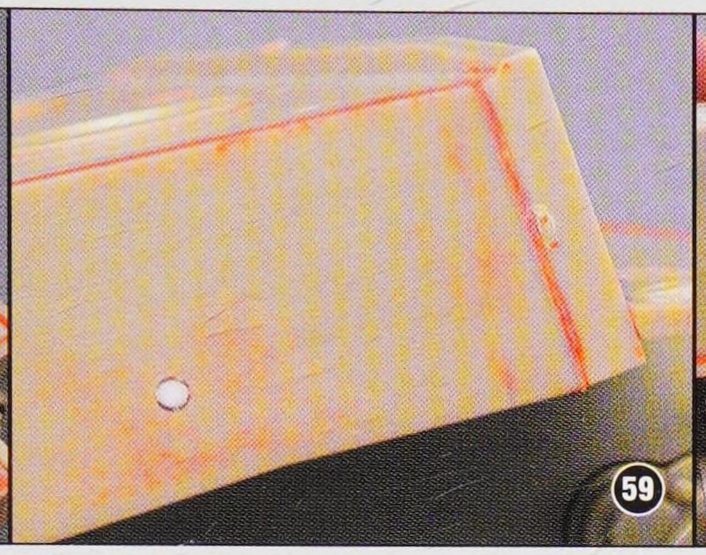
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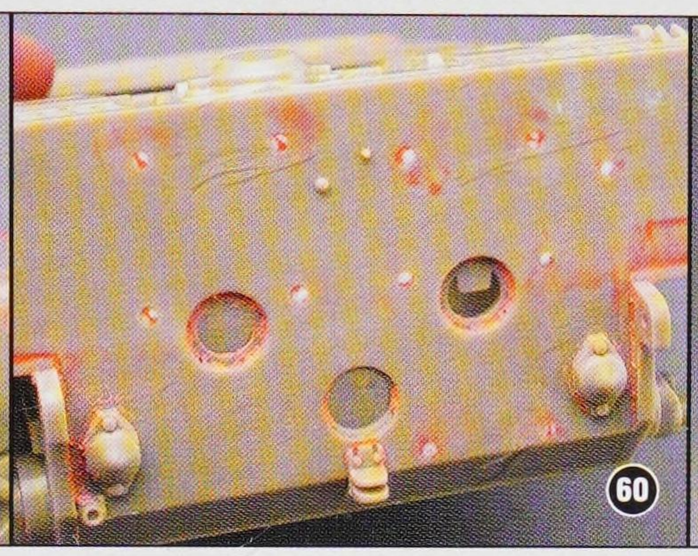
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One of the main drawbacks of the Tamiya Tiger I kit, is that it is festooned with holes for the various tools and other parts. This isn't as big of an issue on the Tiger II where the holes have mostly become "pips." To deal with this on the Tiger I, all the holes were plugged with styrene rod, trimmed and filled with putty. This results in a very smooth, uniform surface more fitting of a car than a tank (**photos 58-60**). To texture the surface and provide a primer coat for the models, I used a lacquer-based product from Gunze Sangyo, called Mr. Surfacer 500. This is somewhat like thick paint with very little self-leveling properties. I always use the Mr. Color Thinner with it, because of its quick drying time **(photo 61)**. To apply the texture I use an old brush that I have dedicated to this task. This brush started out life as a 3/8-inch "filbert" **(photo 62)**. I start by putting a small amount of the Mr. Surfacer on a palette and thinning it slightly. Working on one panel at a time, I brush it on the model in long strokes first and when the surface is completely covered, I begin a stippling motion (**photos 63 & 64**). The cool part about this stuff is that it sticks to itself and the texture is formed completely from the material and not the plastic underneath. If you don't like the results, it can simply be sanded or scraped away. **Photo 65** shows the finished hull. On the Tiger I, my objective was to create a subtle, slightly rough surface (**photo 66**). On the Tiger II, this can be made more pronounced by applying more material and stippling it for a longer time. This will raise some serious texture (**photo 67**). Light sanding will reduce this to what is seen in photo 68. I like this a little better than bouncing a Dremel tool all over my model. This is also demonstrated in black and white on page 151. O The Mr. Surfacer also provides a nice, clean surface to add weld beads to. I use red putty for mine. This can be any standard automotive glazing putty. Bondo makes a good one that is sold in most auto supply stores. I start by masking off the area with Tamiya masking tape (in this case, the hull top seen in **photo 69**). The putty is applied to the masked area, with an eye towards forcing it into the gap between the pieces. It is then sculpted a bit to look like a weld (**photo 70**). I'm using a dental tool here, but just about anything will work. These harsh marks are then softened with a light application of Tamiya Ultra-Thin Cement (**photo 71**). The result when the masking tape is removed is also somewhat harsh (**photo 73**), so a second application of liquid cement will create the smoother result seen in **photo 74**.

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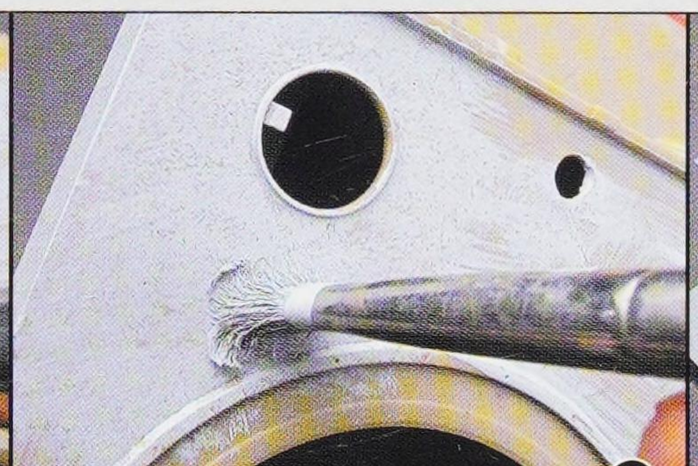
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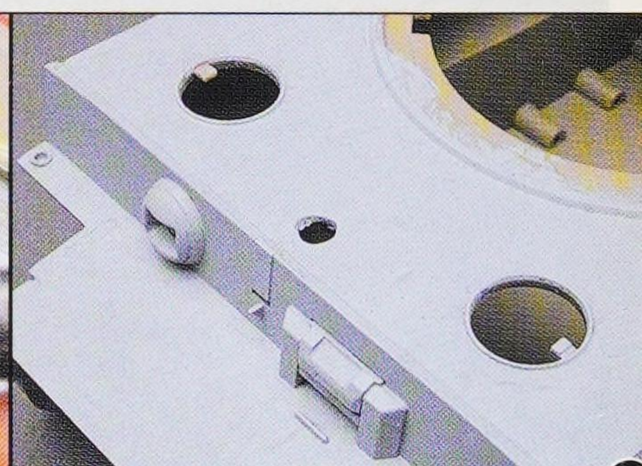
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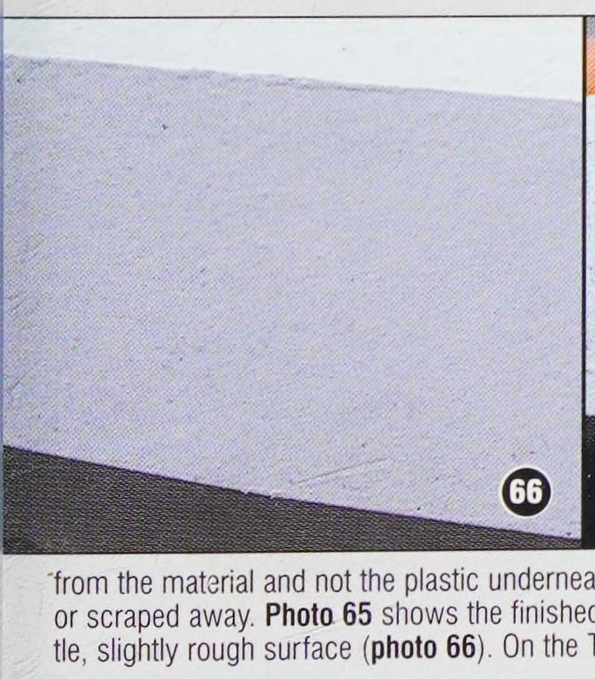
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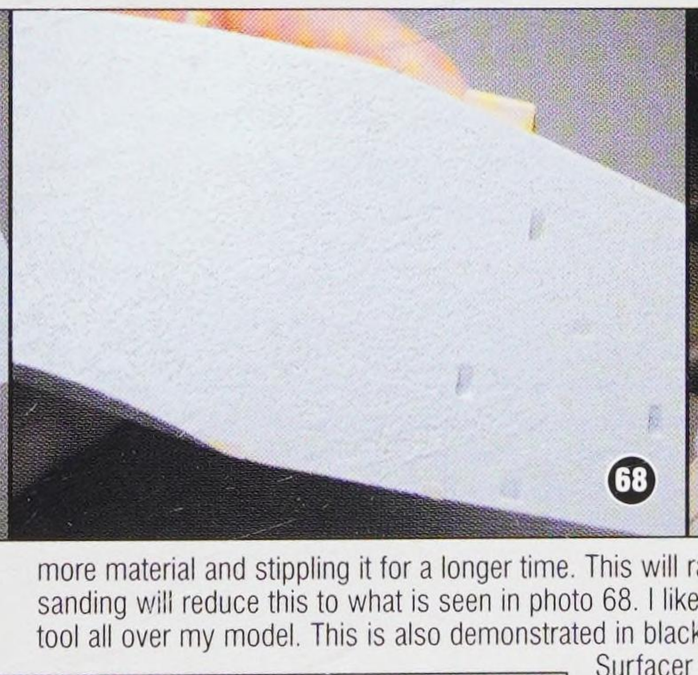
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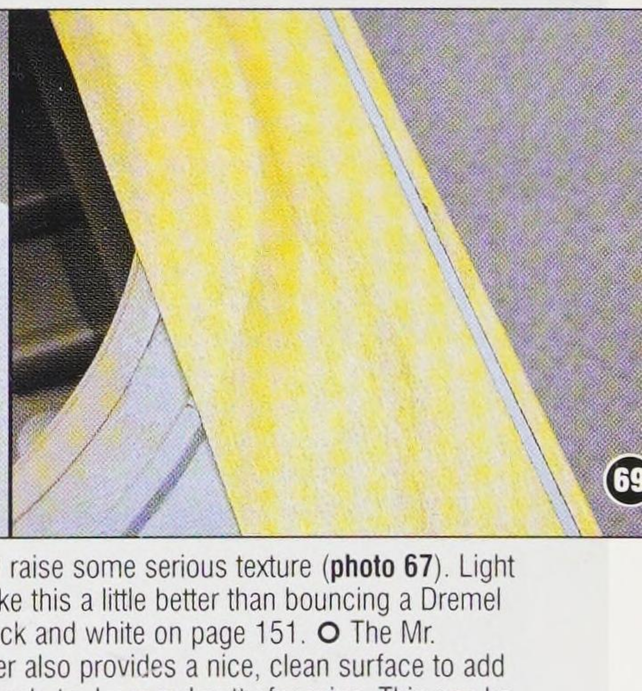
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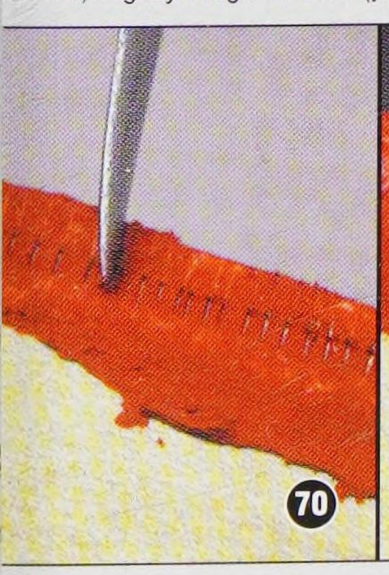
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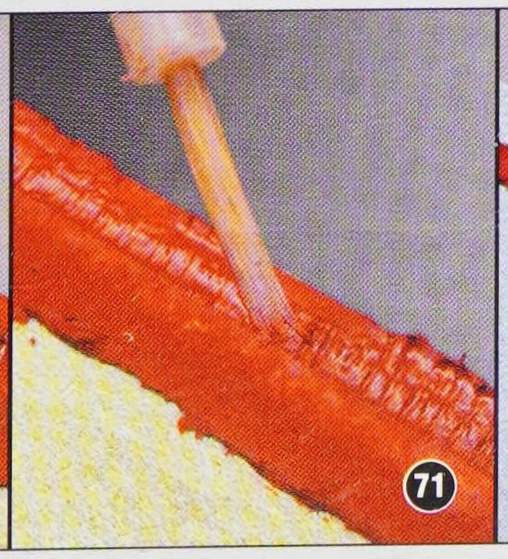
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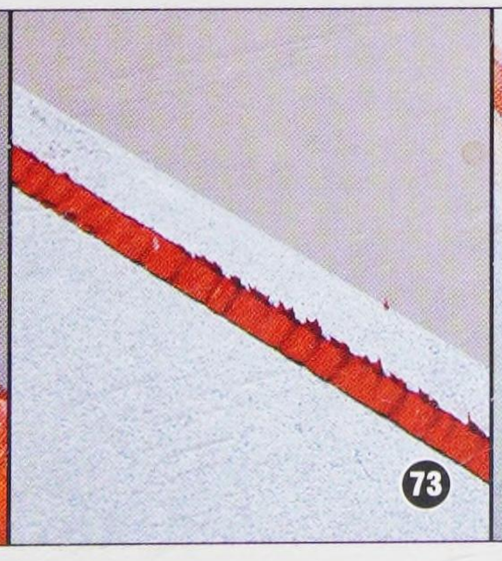
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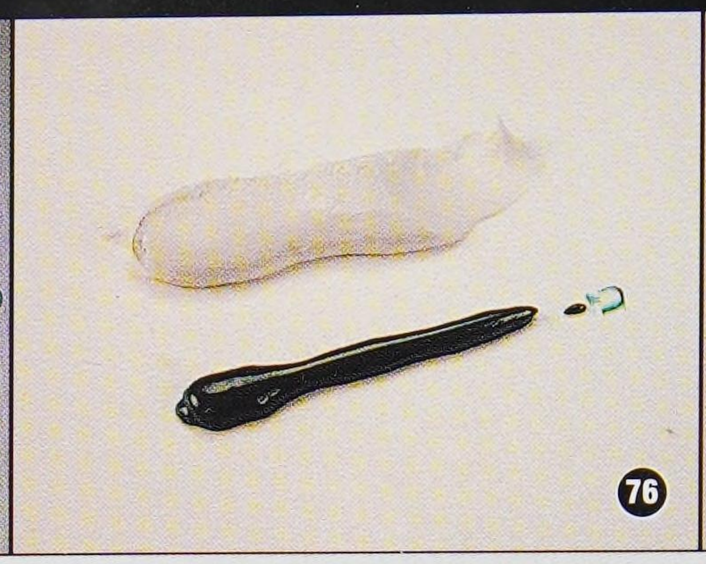
How To: Zimmerit and Cool Tools

75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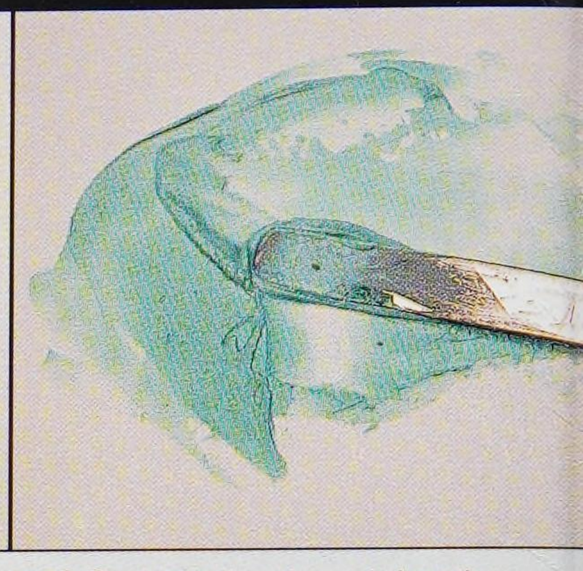

There are many methods for applying Zimmerit to German armor models, but I have found the following to be the easiest and most forgiving. The basis for this method is Tamiya Polyester Putty. This is a two-part putty that has a very fine grain and is pleasantly thin. I use this in conjunction with the Tamiya Zimmerit tool set. This set provides several different sizes of two different pitched tools (**photo 75**). The two different pitches will create two different Zimmerit patterns. These tools can be mounted in the Tamiya craft knife, used by themselves, or mounted into the larger X-acto knife handle. Squeezing out equal length ribbons mixes the putty (**photo 76**). I have experimented with adding more or less of the green catalyst, but it's best to stick to the recommended amounts. Don't bother to mix too much of the putty at once, because it will dry quicker than you can use it (**photo 77**). A thin coat is applied to the model, as shown in **photo 78**. The tool is then dragged along the surface to create the pattern (**photo 79**). The tool is "jagged" every so often to create the sections (**photo 80**). Extra putty, like that seen around the cable bracket in photo 80, can simply be scraped

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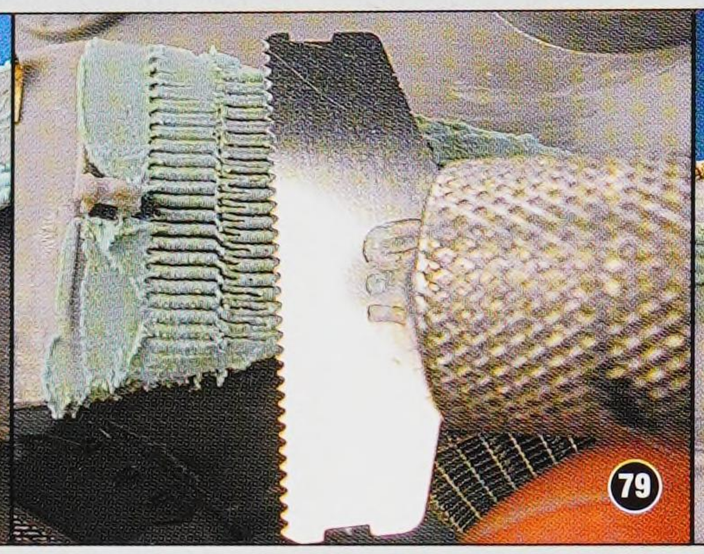
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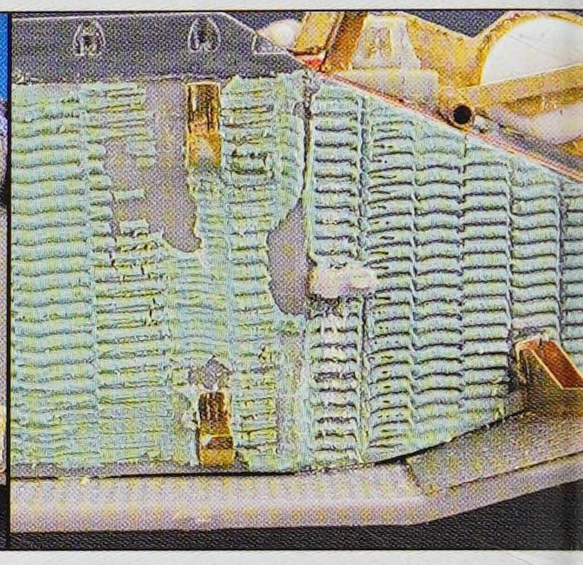
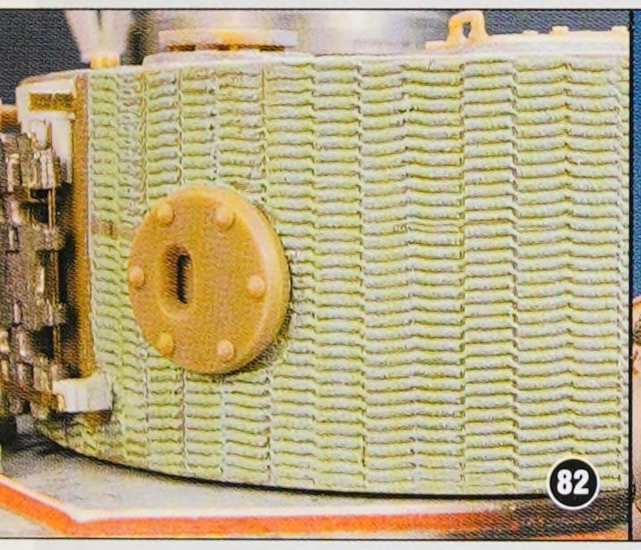


away with a knife during the process, or even after drying. The Tamiya putty sticks well enough to tolerate a fair amount of handling, but it can still be realistically chipped as shown in **photo 81**. This also means the whole lot can be removed, if you are not pleased with the final results. The putty is thin enough to be masked, as shown on the back of the turret in **photo 82**. Also, some smaller items, like the pistol port shown here, can be pressed into the putty while it is still wet. In addition to the Tiger P illustrated here, this same method was used on the Porsche turret Tiger II (**photo 83**).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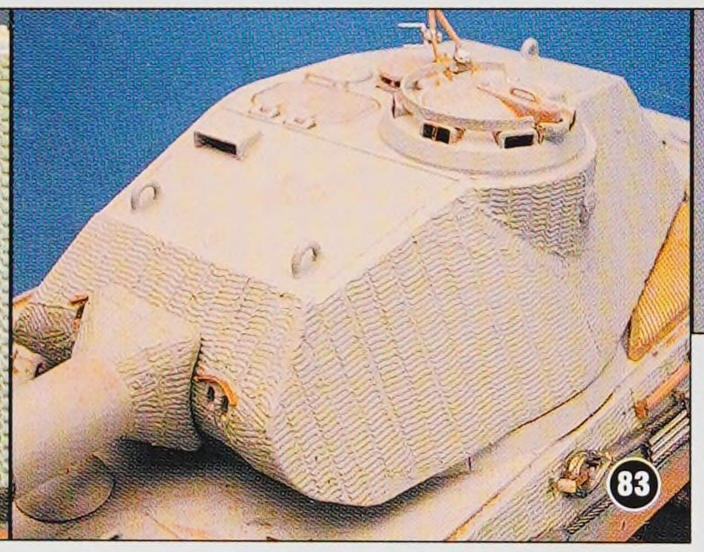
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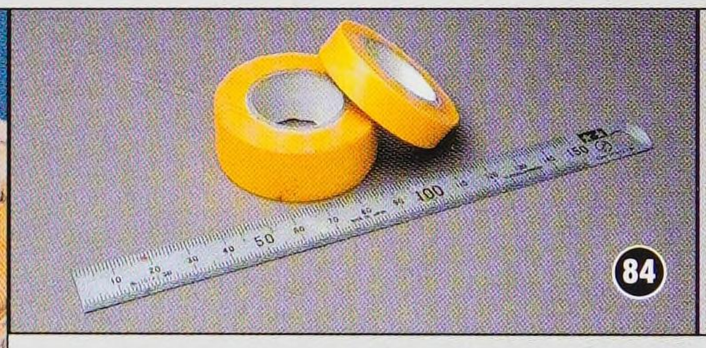

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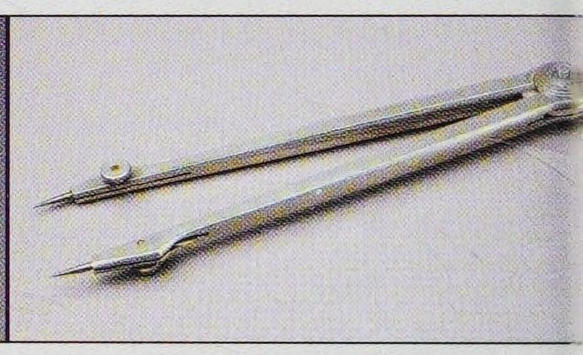
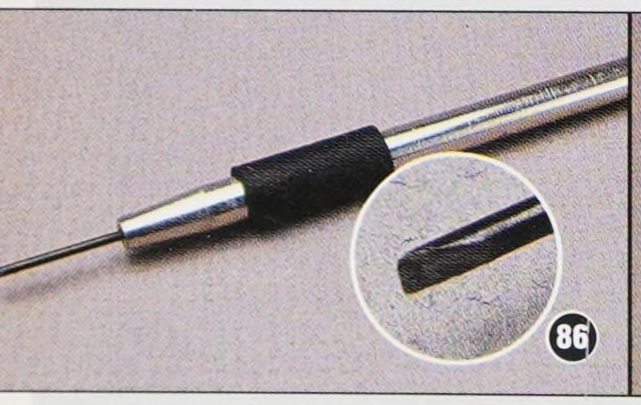


These are a few of my favorite things! No really, these are some of the tools I depended on most during this process. I don't know if this means they are special, but maybe what worked for me, will work for you, too. **Photo 84**: Tamiya tape and the Tamiya scale ruler are the bomb. The Tamiya tape is pretty amazing, as it rarely, if ever pulls off Tamiya paints. I never thought I would use masking tape as much as I have since I discovered it. It comes in several different widths, which is even handier. The Tamiya ruler is a very useful straight edge to have around. It's small, so it doesn't get in the way and the end is slightly raised so you can easily pick it up. Oh, and it's also an accurate measuring device! ○ **Photo 85**: I ❤ my dividers. I use these babies for everything, scribing, measuring, marking and a few things I can't remember. The pair shown here is ancient, but even with the rise of the computer, they can still be found at art supply stores. ○ **Photo 86**: The Trimaster Chisel. A miniature chisel that is super sharp with a well-balanced handle is great to have on the bench. You can remove mold lines, details and other objectionable plastic bits and even remove etched brass parts from their frets. This tool also includes a sharpening stone. ○ **Photo 87**: The official Whatchamacallit. This tool is made by Micro Mark and was originally offered for the application of glues. However, superglue clogs it up like crazy. The real beauty of this tool is for the precise application of superglue accelerator. As you may already know, if too much of this stuff gets on your model, all the parts applied thereafter will instantly stick. ○ **Photo 88**: Tamiya Flush Cut Nippers. A million and one uses, but cutting parts off with no clean-up is what they do best. Greatly speeds up plastic assembly and also works well on small resin parts. ○ **Photo 89**: A good pair of finely tipped tweezers. I can't for the life of me remember where I got these, but I'm sure they can be found wherever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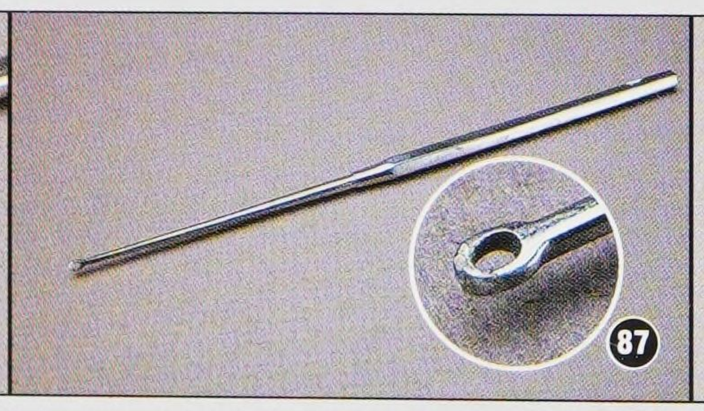
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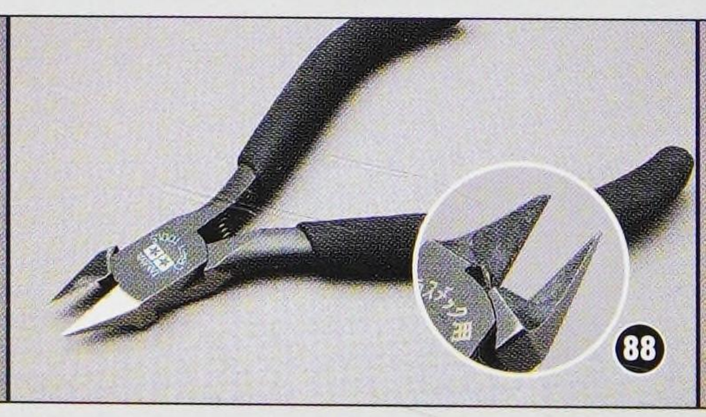
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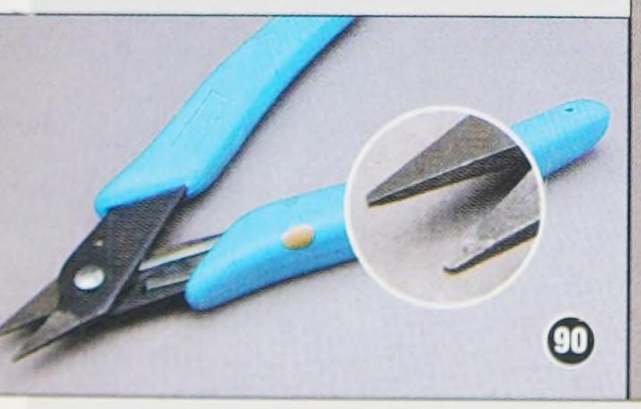
tools are found. They are non-magnetic and feature jaws so thin they regularly bend. They are just as easy to bend back and are essential for picking up and placing very small parts. ○ **Photo 90**: Xuron Shears. I'm not sure what makes these work so well, but they have remained sharp enough to slice sub-miniature nibs off of etched brass parts for several years. ○ **Photo 91**: Airpower. I used three airbrushes for all the painting in this book. From bottom to top are the Iwata Micron B, the Testors/Aztec double action and the same brush in an all-metal version. I really like the Iwata for fine work, but admittedly, this is more a personal preference than a necessity. I tend to favor an all metal brush because that's what I started using way back when. I use the Testors/Aztec brushes for more general work (these things never fail to work). ○ **Photo 92**: The Iwata brush's color cup had a small Teflon washer that sealed the bottom. This went down the sink long ago, so the cup was replaced with a Testors/Aztec plastic one. ○ **Photo 93**: Etch-Mate. I talk a lot about bending tools during my narrative, but the one I like best is the Etch-mate by Mission Models. It's a well-designed tool that has a permanent anodized surface to reduce glare.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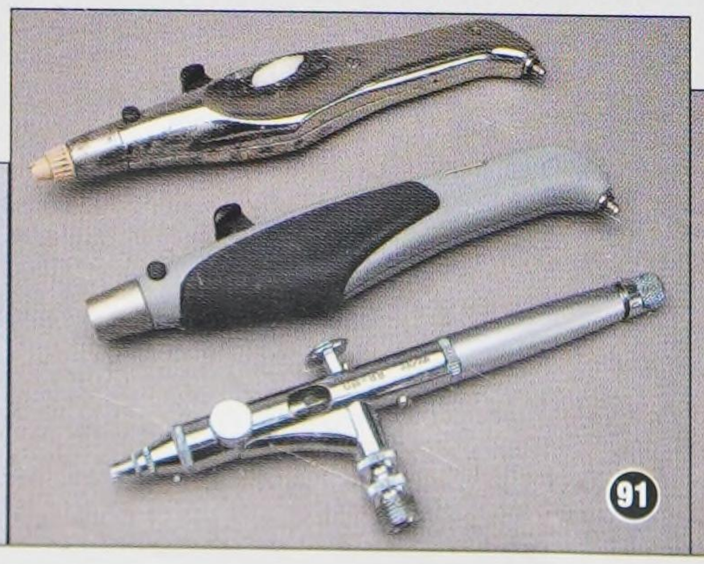
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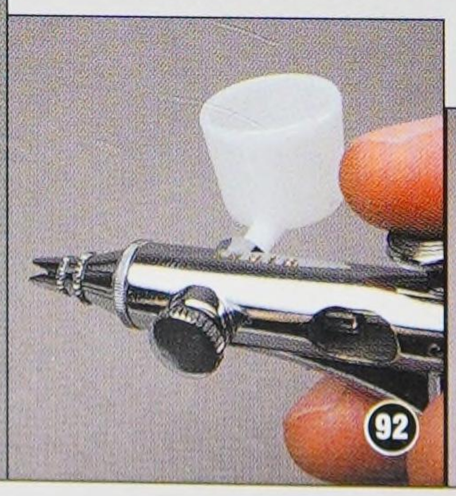
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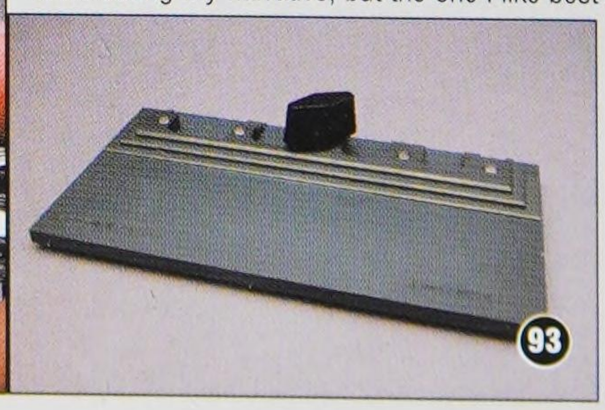
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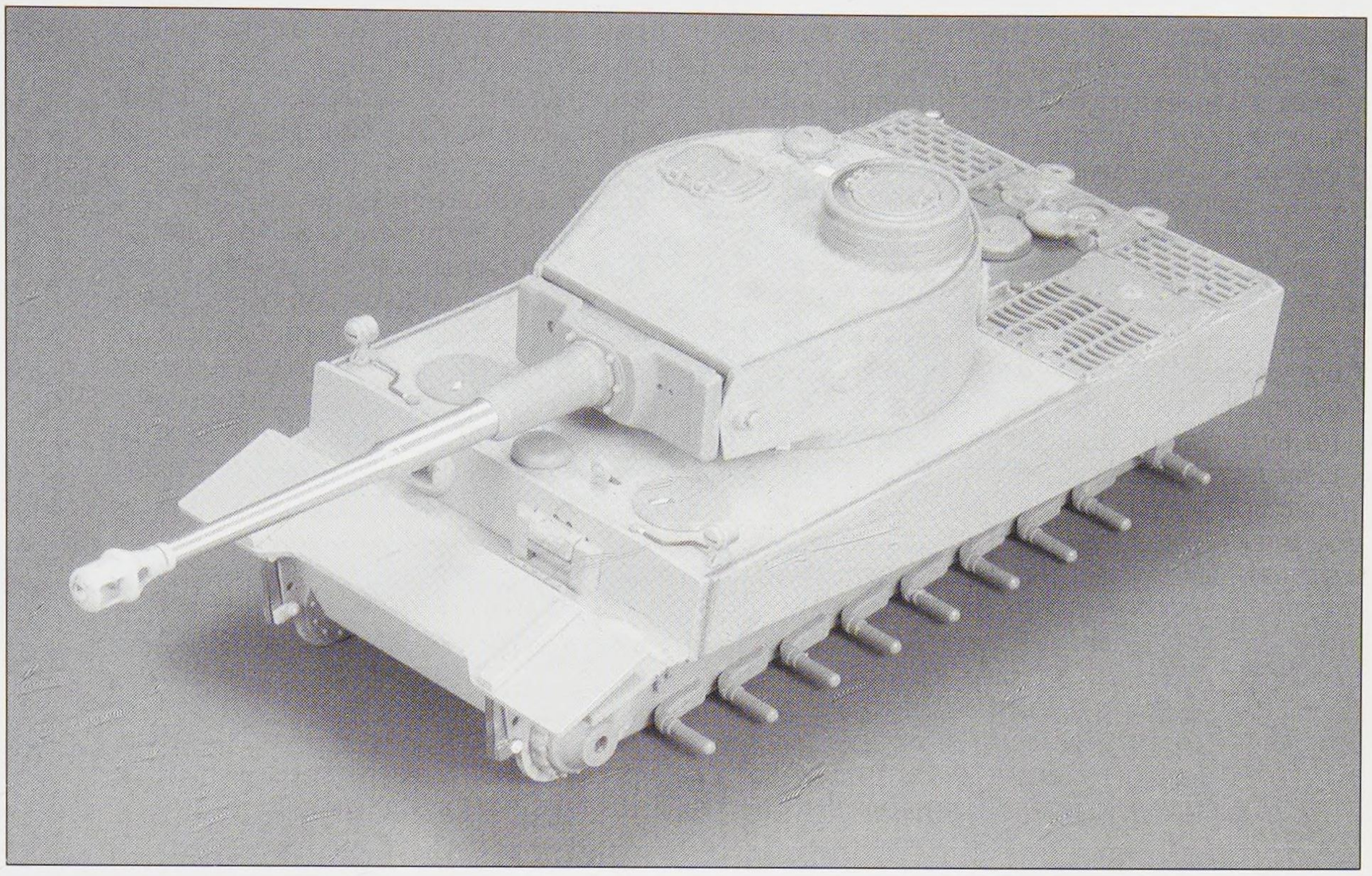
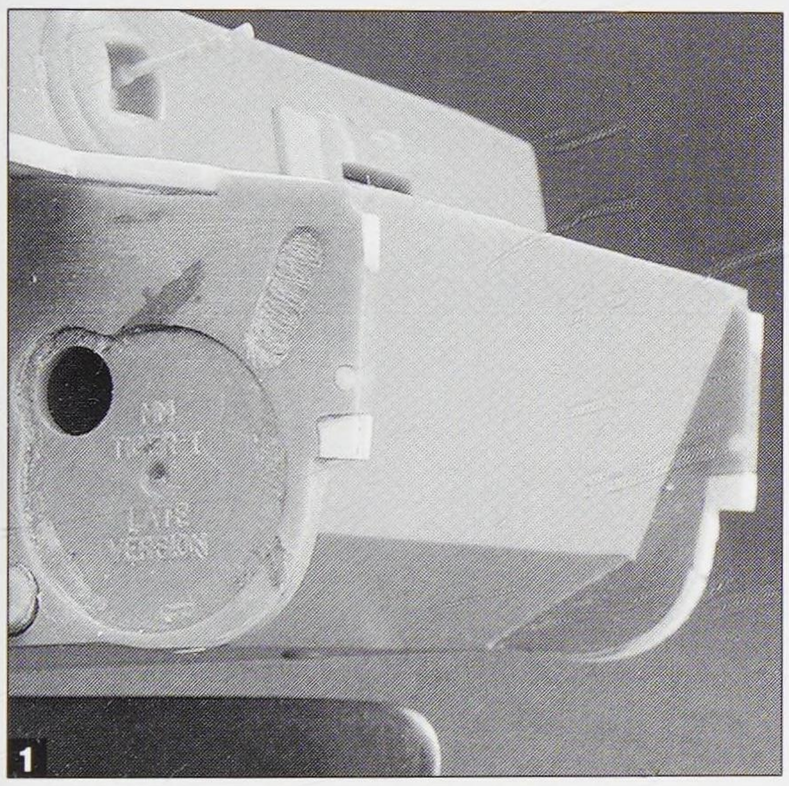
The Tiger prototype was a markedly different animal when compared to its later brethren. Its most significant and unique difference was a device called the "Vorpanzer." This was a folded armor skirt that was designed to protect the front tracks and hull. Although immediately dropped, the Vorpanzer was an idea that was ahead of its time. It offered spaced armored protection and protected an area that is always vulnerable on a tank, the front track runs.

The Tamiya kit used for this model is the "Afrika Korps" version, and this represents the earliest version available from them. Even though it is billed as the early version, it's deficient in a number of areas. The first is the shape of the front tow shackles. The very early ones were straight and they contained two circular holes, one of which was plugged (although it was open on the prototype). The circular armored cover around the final drives that was common on later Tigers was actually retrofitted to these





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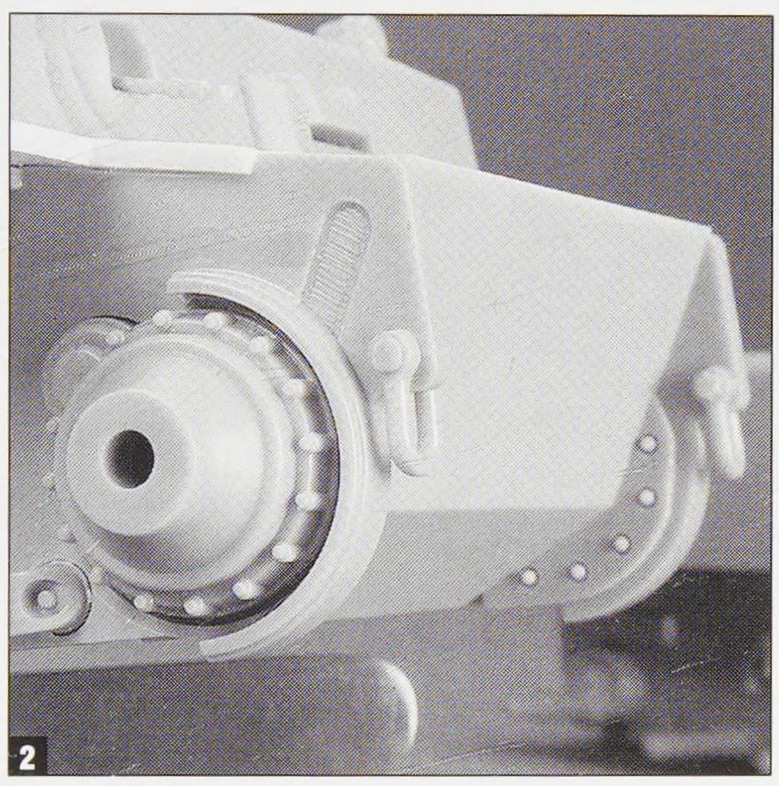
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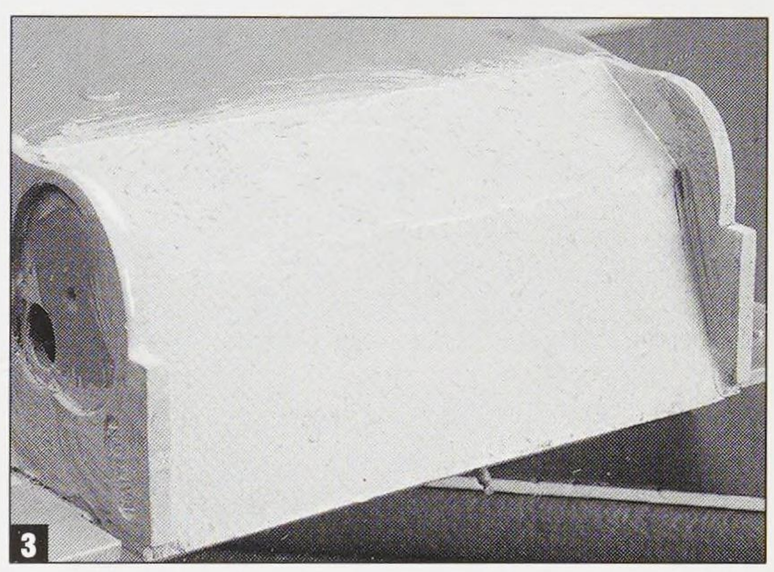
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tanks, due to the elimination of the Vorpanzer.

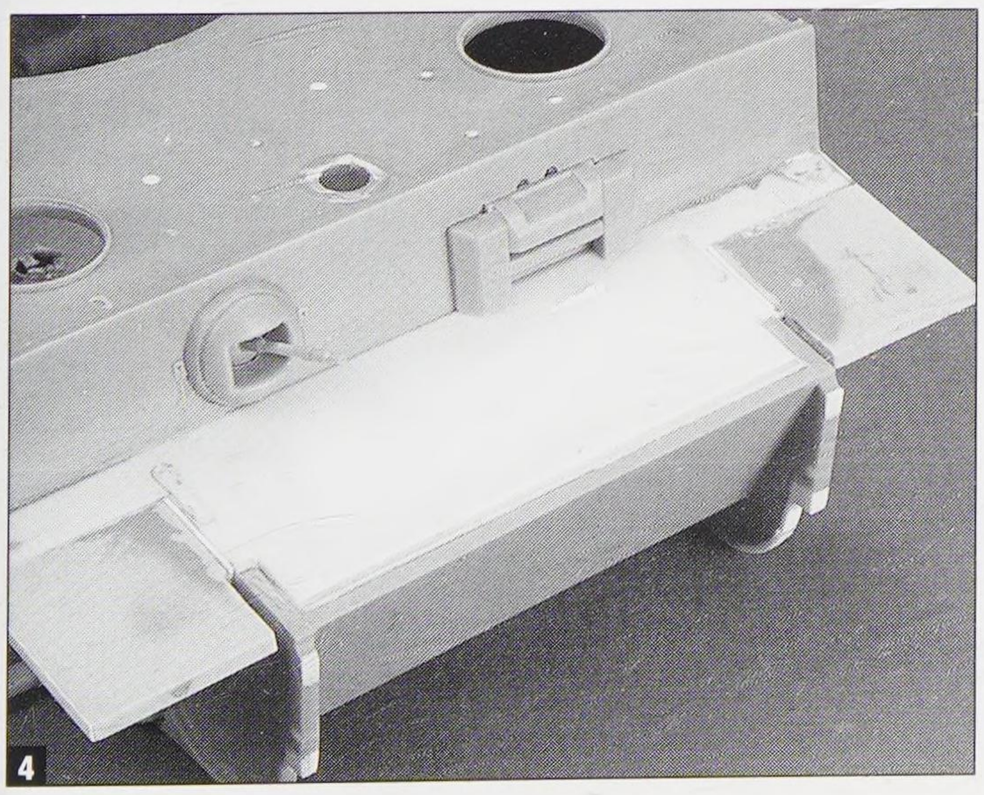
To modify the shackles, I used chunks of styrene and superglue and lots of elbow grease. The circular armored cover was also carved off and a new shape was created around the final drive. There were no references for this shape, so I took my best guess. Using the interior bolted panel as a reference was helpful. **Photos 1 & 2** show a comparison of my modifications and the box stock version. Note the circular notch in the tops of the shackles. This was where one of the arms sat on the deployed Vorpanzer. This is a recognition feature of the very early tanks. **Photo 3** gives another vantage.

The Vorpanzer was installed next. I used an available accessory kit from MR Models for the plate and mechanism, although the mechanism was heavily modified.

The front, nearly horizontal armored plate on the prototype extended all the way across the front hull and was not notched like later tanks. Two resin parts are provided in the MR kit to extend the panel. This is shown in **photo 4**. Note also that the holes behind this area are also filled (they appeared later). Some shimming and filling was necessary for a good fit.

Photo 5 is of the modified white metal front levers. I extended them with thick styrene and then wrapped them in a thin strip of brass for strength. Superglue and Zap-a-Gap firmed everything up.

The upper arms are shown in **photo 6**. Hinges for them (installed underneath the front panel) were formed from brass u-channel. In **photo 7**, I'm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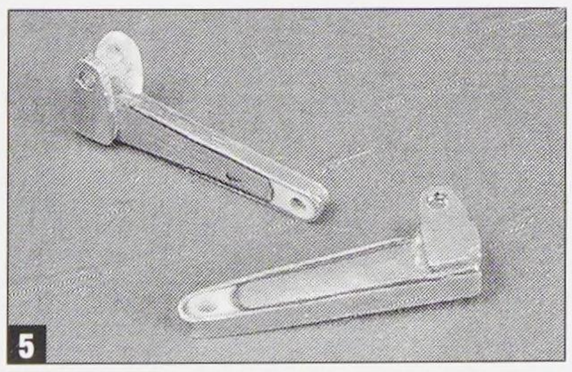
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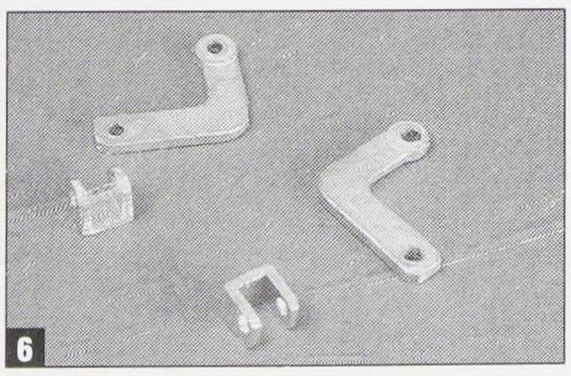
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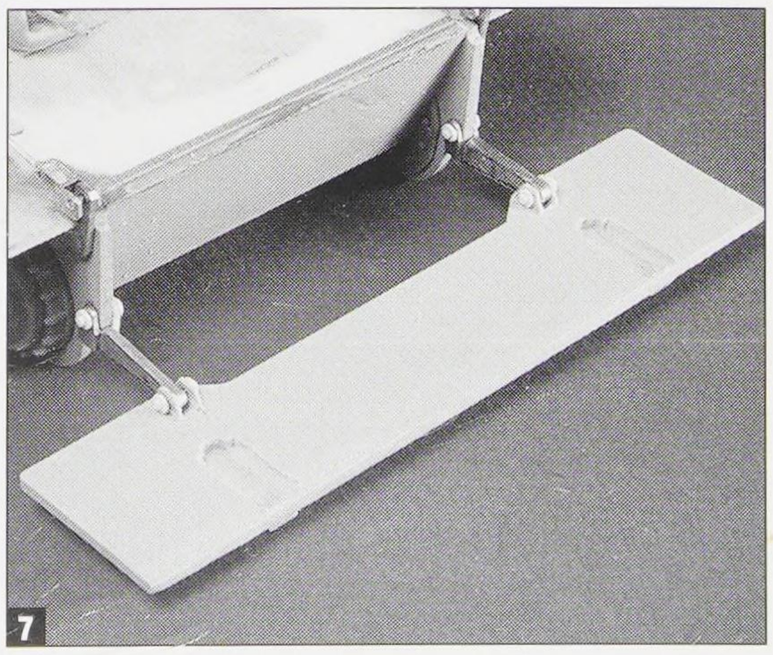
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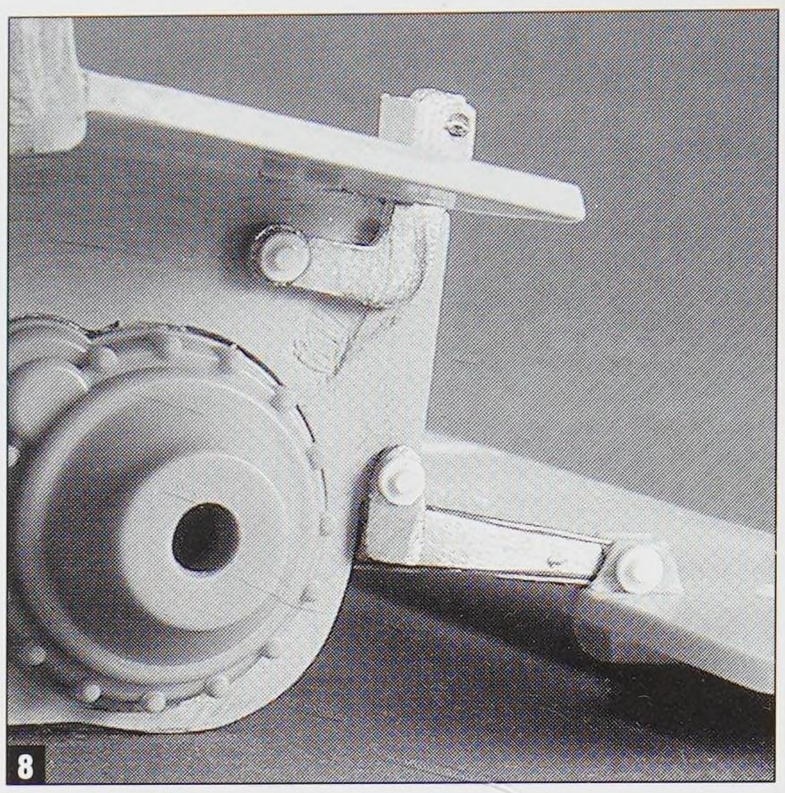
test fitting the lower panel arms. It was necessary to extend the recesses on the bottom of the plate using a Dremel tool to ensure a good fit.

The upper arms pass through the gap in the top plate (**photo 8**). **Photo 9** shows the completed arms. In retrospect, the top arm should be back a bit (so that the pins rest in the notch), but after test-fitting twenty or thirty times, this was close enough! Ideally, there should also be no gap between the front and top plates. Note the collars and the fastening pins, made with a Walden punch and die set. Also note my addition of the second hole, presumably for the tow schackle. On later tanks, this hole is filled and the lower one is used for the shackle. **Photos 10 & 11**, it really works!

The prototype had prominent interlocking joints in the armor of the side hull. These are very similar to the joints Tamiya has rendered in the sides of the lower hull. To recreate these I first traced their outline using an eraser shield and a pencil, shown in **photos 12 & 13**. Eraser shields are commonly found in office supply stores (you could also make your own template from thick styrene). Once I was satisfied with the shape, it was retraced using the stylus from a compass (**photo 14**). This was then further gouged with the stylus to help loosen the material within the shape. The material was then removed with a X-acto knife (**photos 15 & 16**). To create the texture of the flame cut panel beneath, the area was re-scribed with the stylus (**photo 17**). To make the area blend in and soften the cut areas, I carefully coated the area with a very small amount of Tamiya Ultra-Thin liquid cement, as shown in **photo 18**. Compare this area with the joint in the background.

Another detail unique to not only the prototype, but also to very early production tanks, is the middle filler caps on the rear deck. These did not have the rectangular flange found on later kits. **Photo 19** shows the stock kit on the right and the entire cap removed on the left. Tamiya missed this detail, so I hacked up an extra hull top I had lying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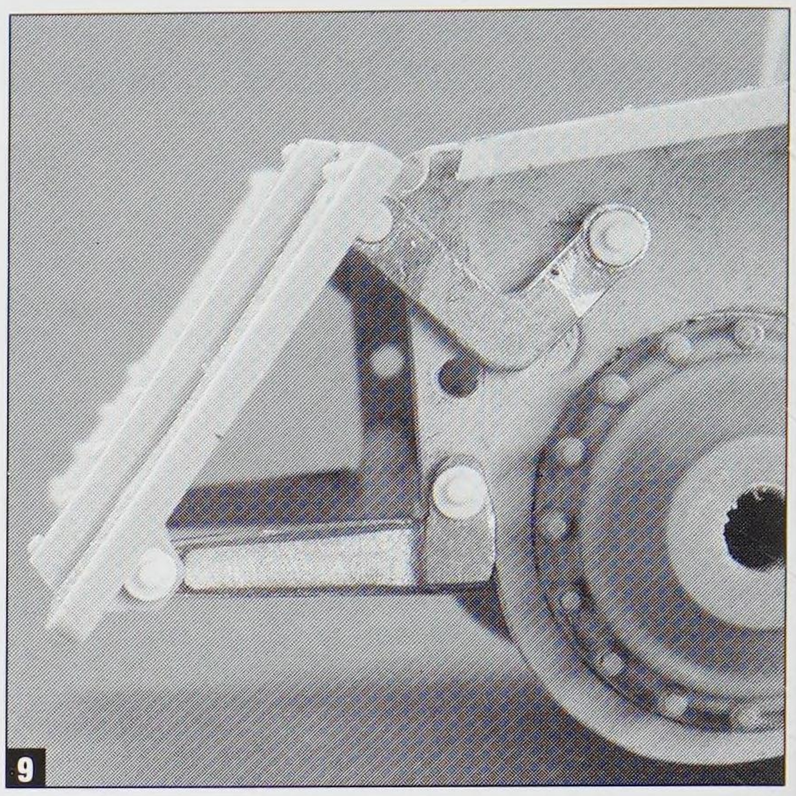
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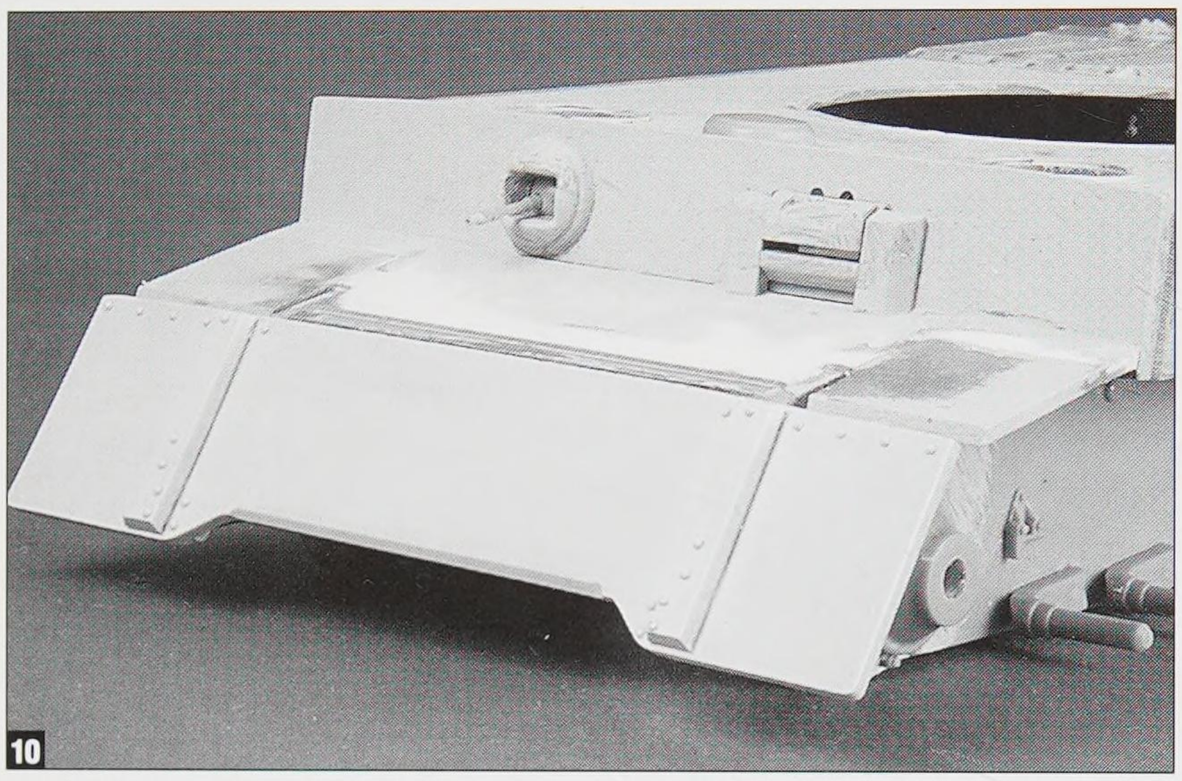
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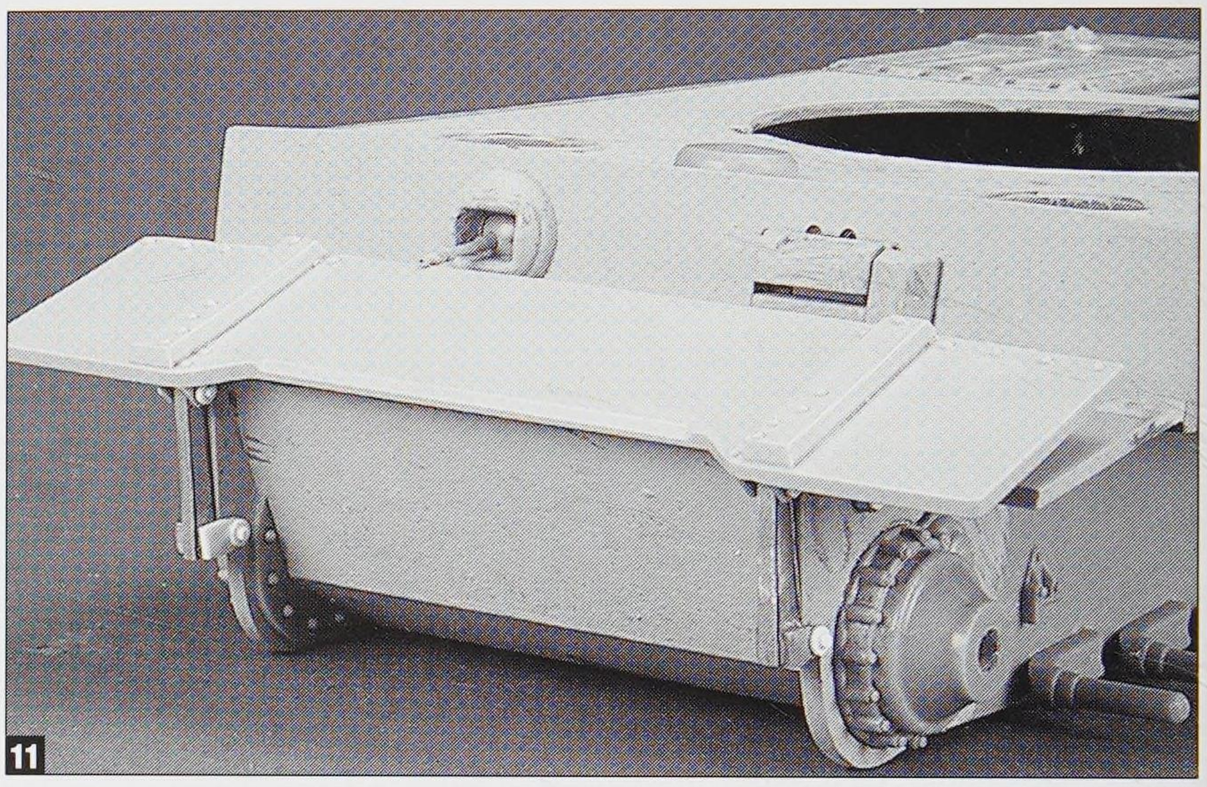
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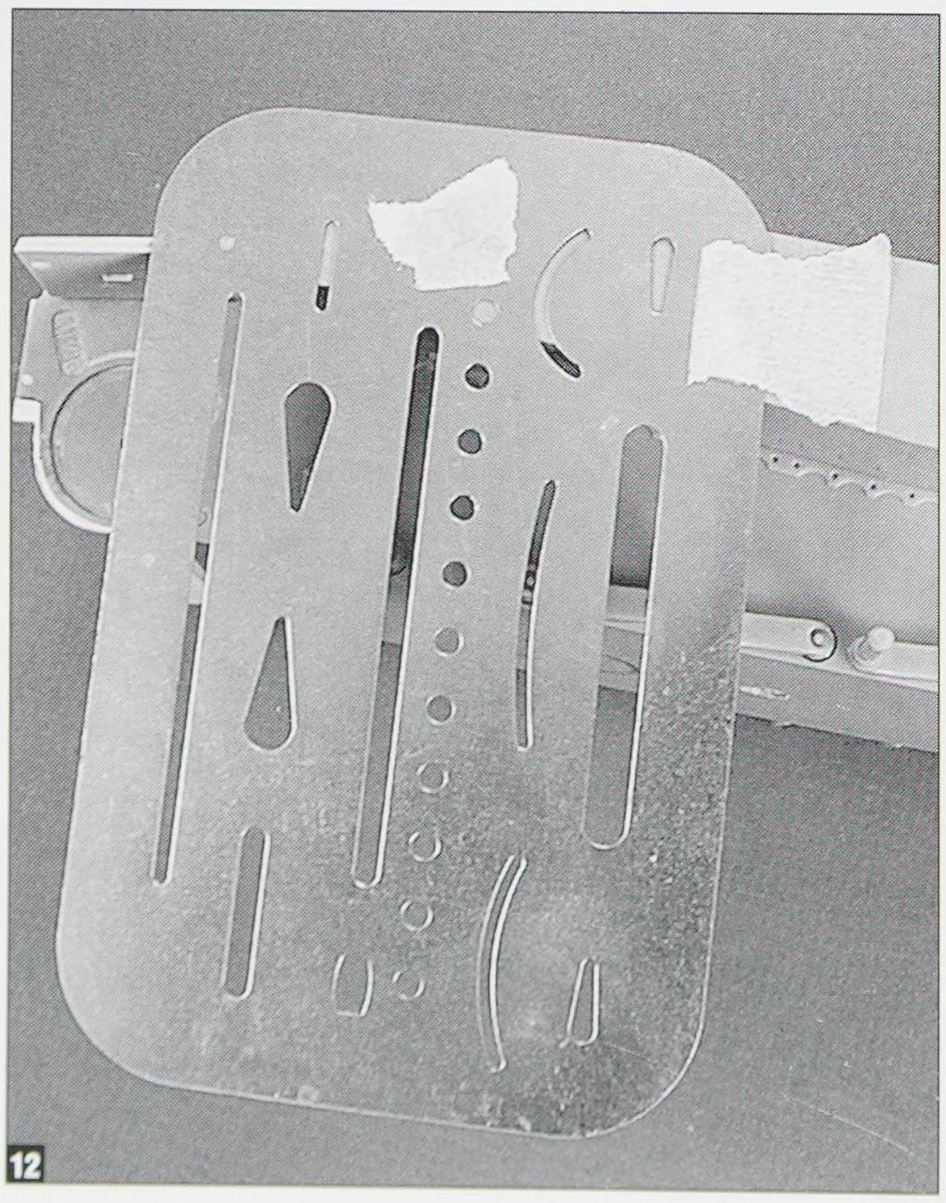
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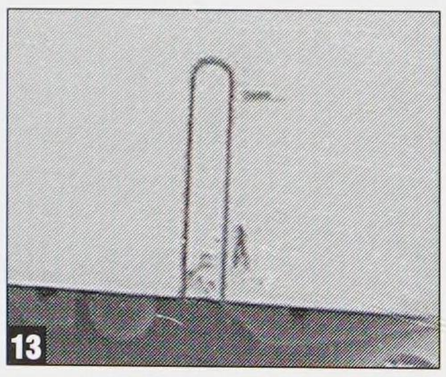
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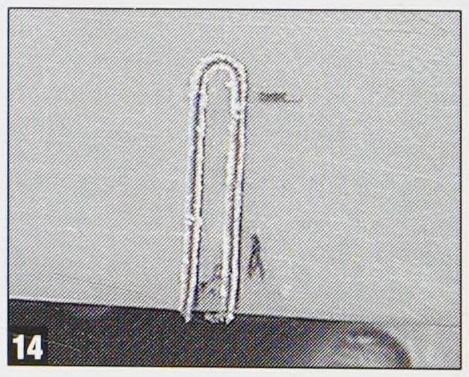
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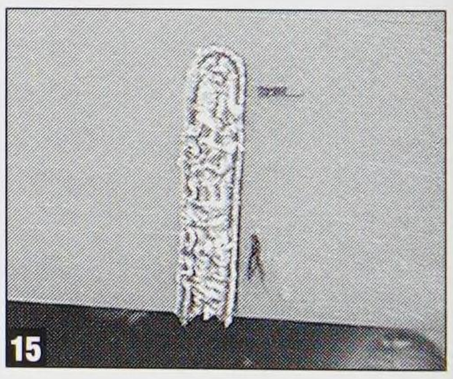
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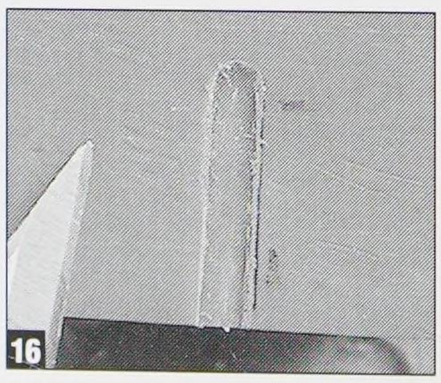
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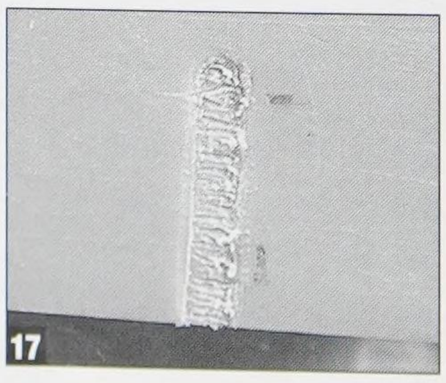
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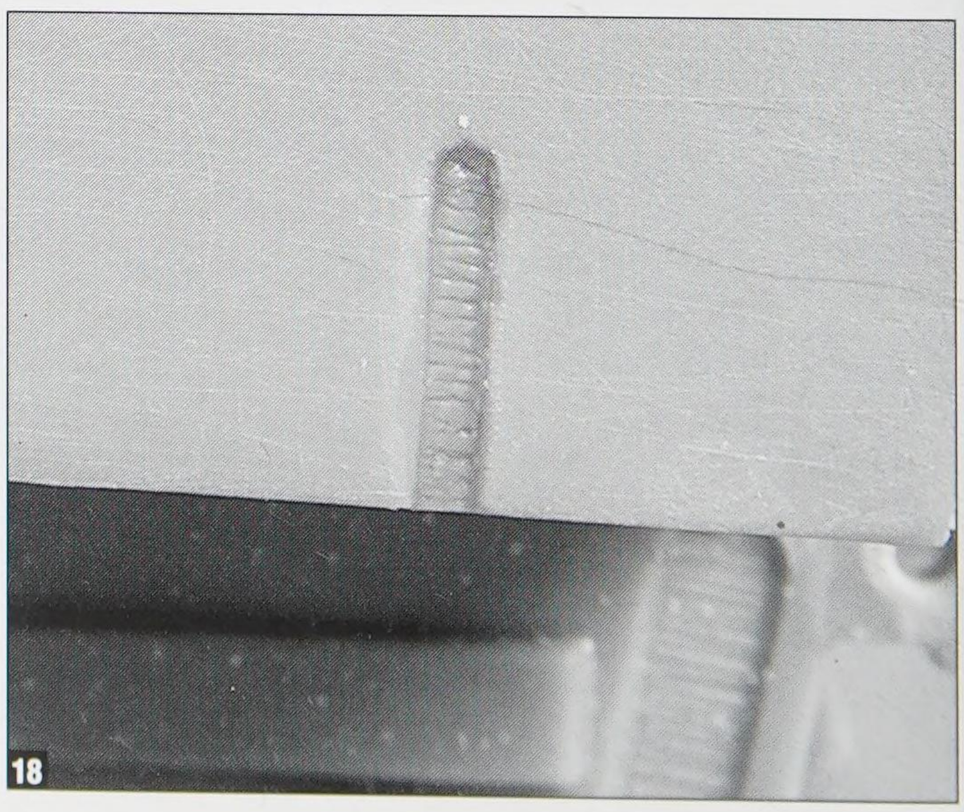
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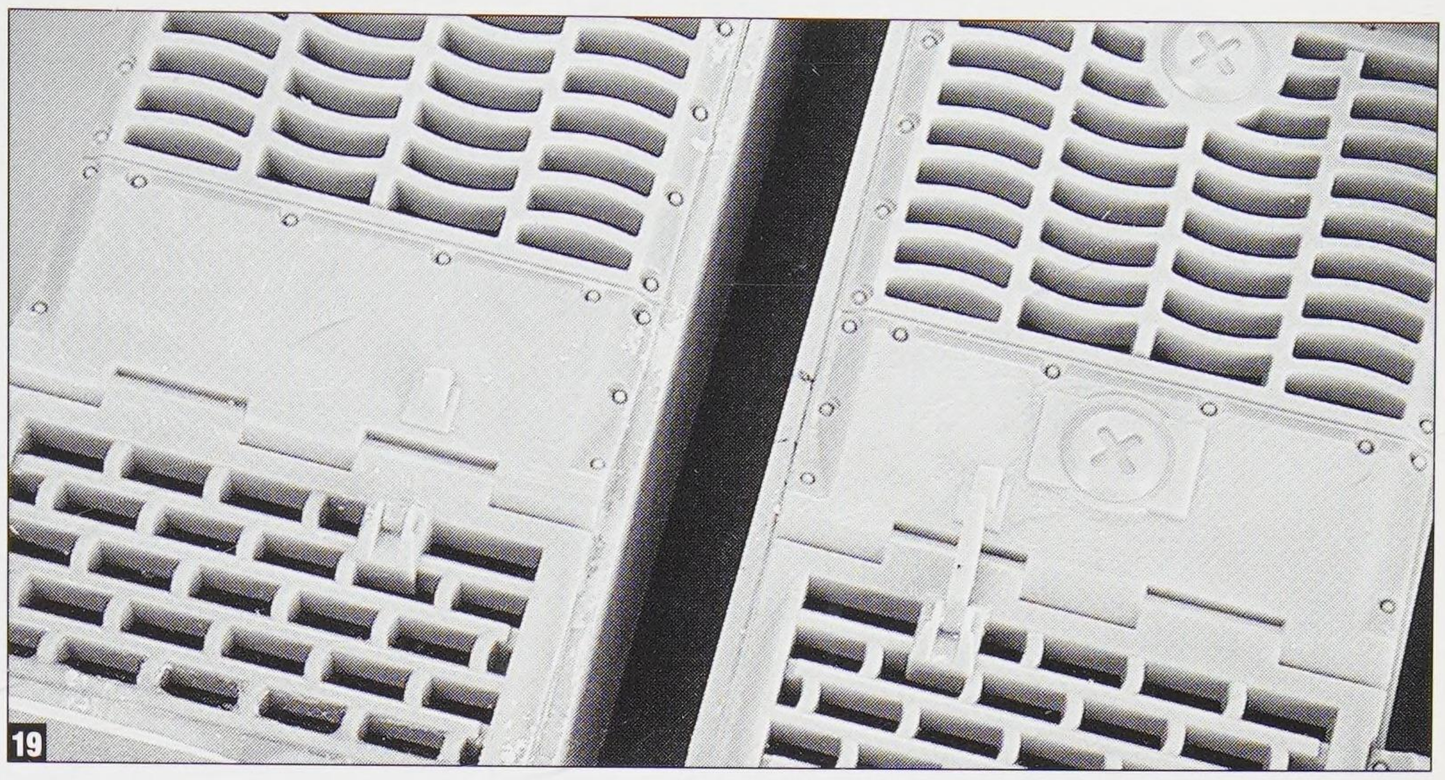
around. A bit of grinding and then careful and tedious wet sanding (with the sandpaper taped to a plastic cutting board) got the cap off the deck. I initially installed the caps right to the hull, but I later discovered that they do have a flange, albeit a round one. It's extremely thin and not much bigger than the cap itself. Searching for a suitable shape, I found that the tops of the exhaust stacks were almost exactly the right size (this project generated a ton of spare parts). I removed the ends with a razor saw and more wet sanding. The recessed groove at the top was the perfect sanding guide. I knew when the part was sufficiently thin when it fell away from the inner circle. **Photo 20** shows the parts and their source and **photo 21** shows the end result (the stock kit is on the right side of the photo).

I wanted to show the rear snorkel cover opened, so it was back to that spare hull. The cap came off easily and it already was the correct shape underneath (spooky). This is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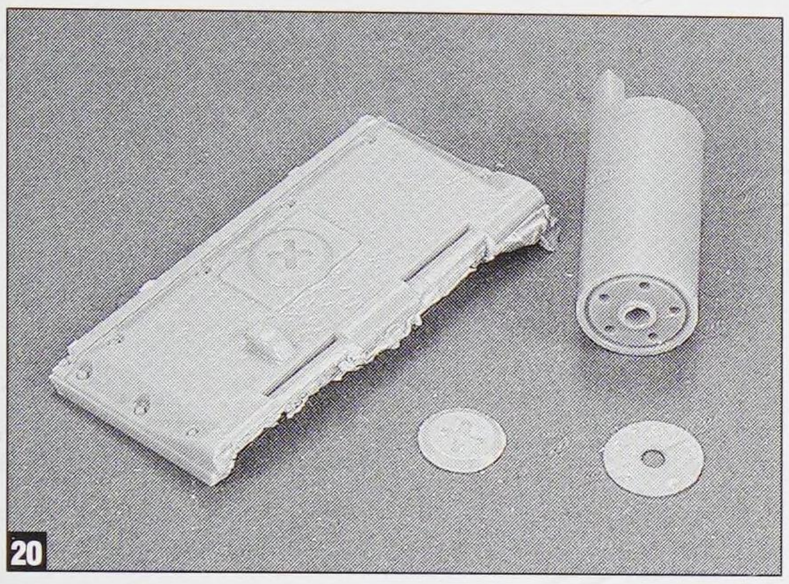
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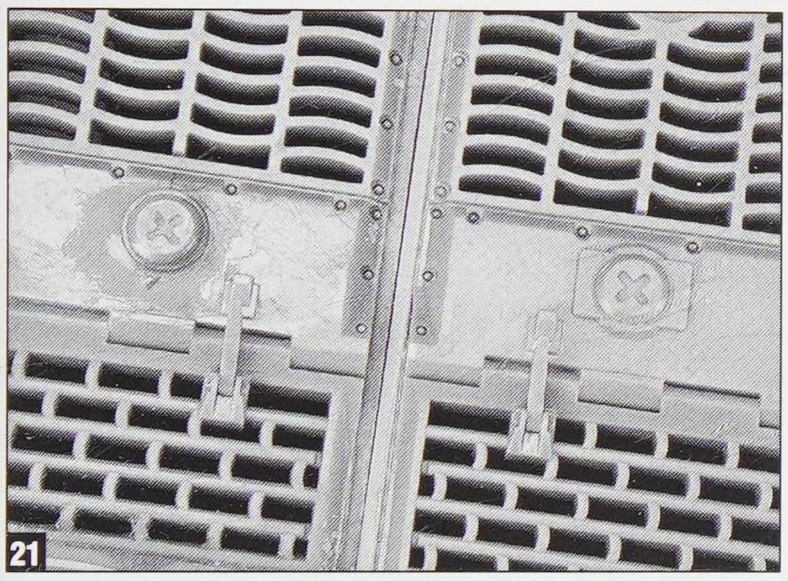
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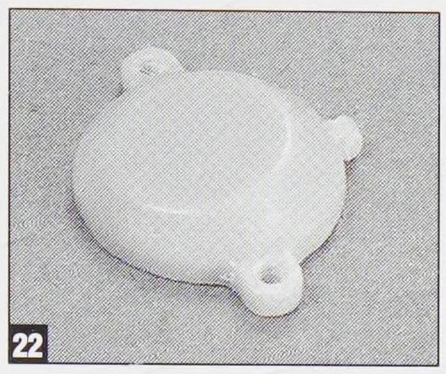
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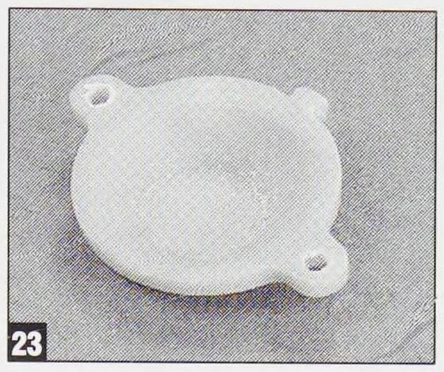
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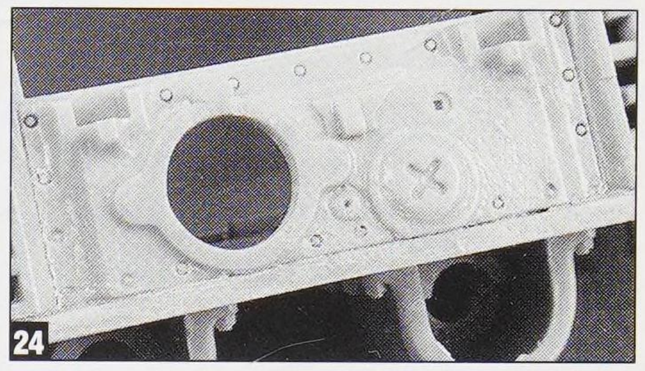
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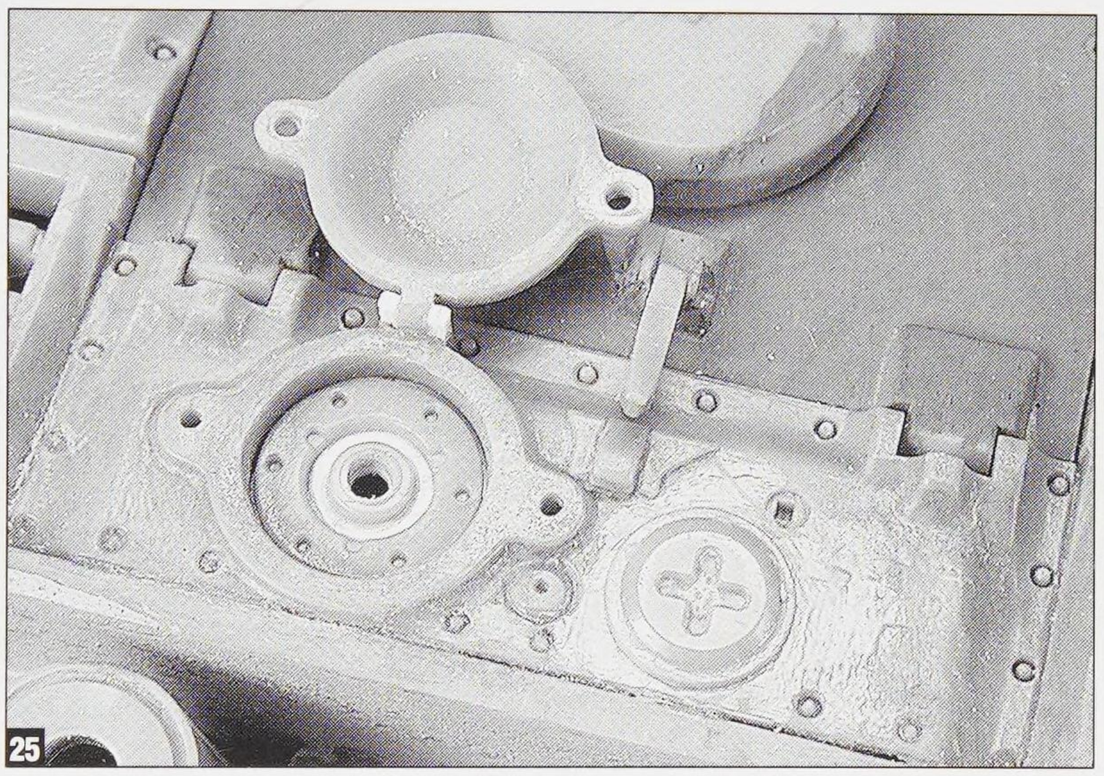
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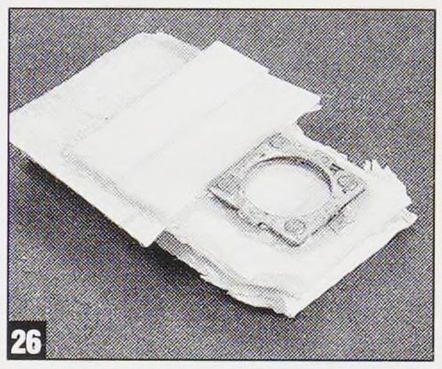
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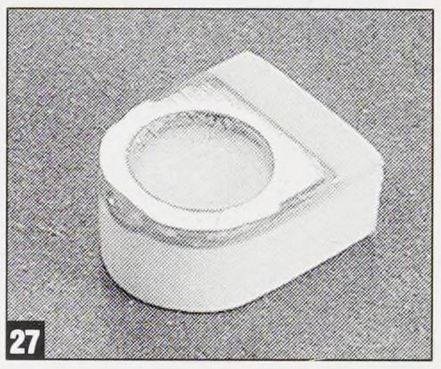
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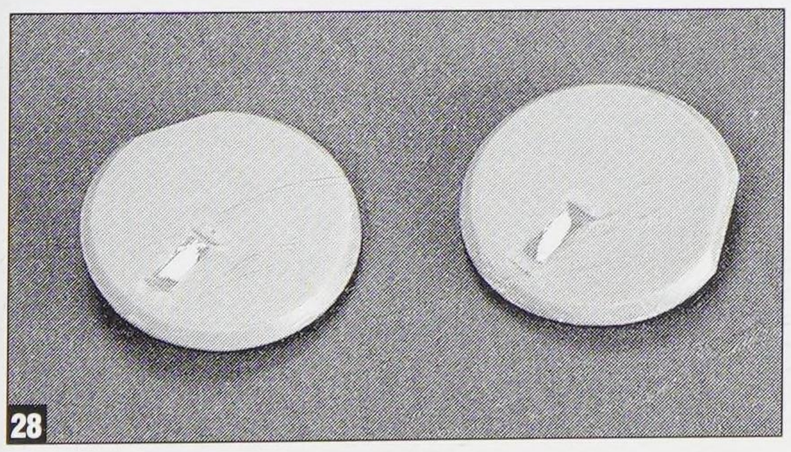
shown in **photos 22-24**. Interestingly, photo 24 shows the one early style filler cap that Tamiya rendered: the one next to the snorkel. They have rendered it with the flange milled off at the edge of the plate, but most of my references show it just butting up to the edge. The most prominent references are the Doyle plans in the Jentz book. These plans do contain small errors, but I believe this detail is correct. **Photo 25** shows the completed area. The flange inside the snorkel opening is from an "Otto Carius" mid-production Tiger. It's one of the empty road wheel flanges. It fit perfectly and it's very close to what was there. The center portion is a bit of a guess. Try as I could, I could not salvage the female hinge portion of the cover, so a new one was made from styrene.

The prototype and at least one of those issued to the 502 had a strange rear antenna base protruding from the rear hull (this is missing by 250014 or earlier and some of those vehicles show a rectangular patch where it was removed). I formed this from pieces of styrene and paper, using a brass flange for the Feifel gear as a guide for the circular center (**photo 26**). Lots of superglue, Zap-a-Gap and sanding boards got me to the shape shown in **photo 27**.

The prototype had no periscopes in the two forward hatches, so these were filled with a piece of styrene and some putty, then sanded smooth (**photo 28**). Early tanks (through 250014) had no provision for Feifel air cleaners, and no hatch stops. The port in the engine deck hatch was filled and the stops clipped and sanded (**photo 29**). The hinged flaps on the exhaust stacks were not added until August of 1942 (somewhere around 250009), so these were carefully carved off (**photo 30**). The small dimple on the back was later filled with putty.

Completely unique to the prototype was a Panzer IV style siren located on the hull roof. This was made from Eduard etched parts and a siren from the Tamiya Panzer IV parts set (**photo 31**).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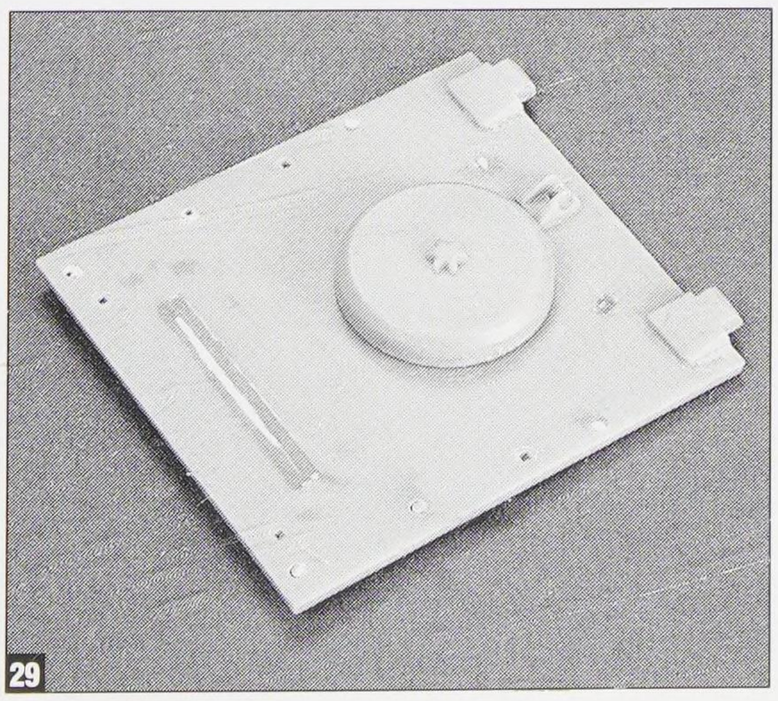
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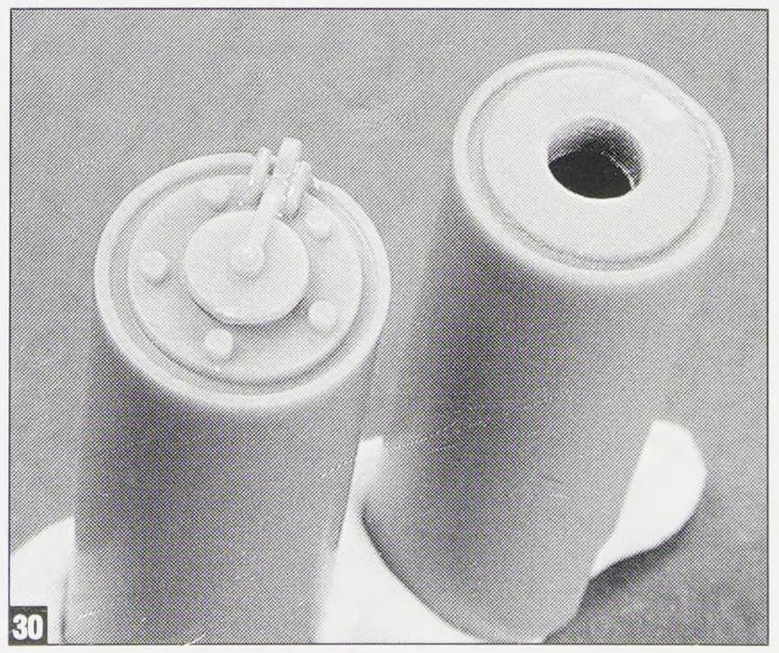
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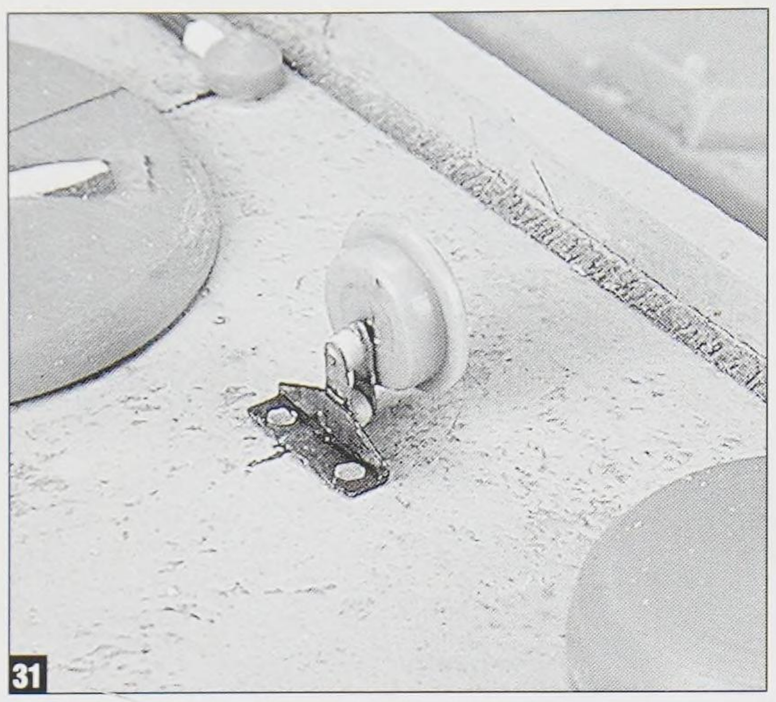
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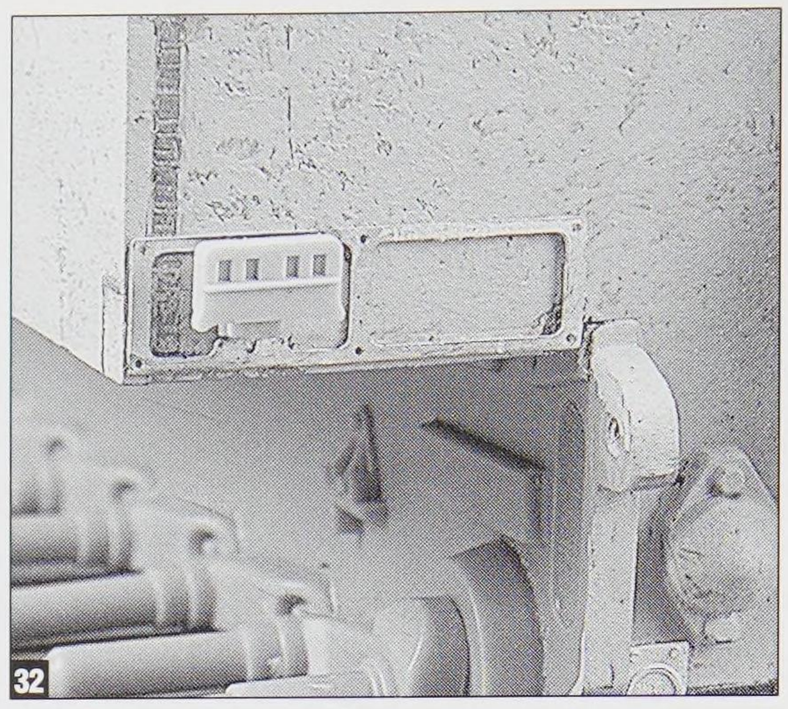
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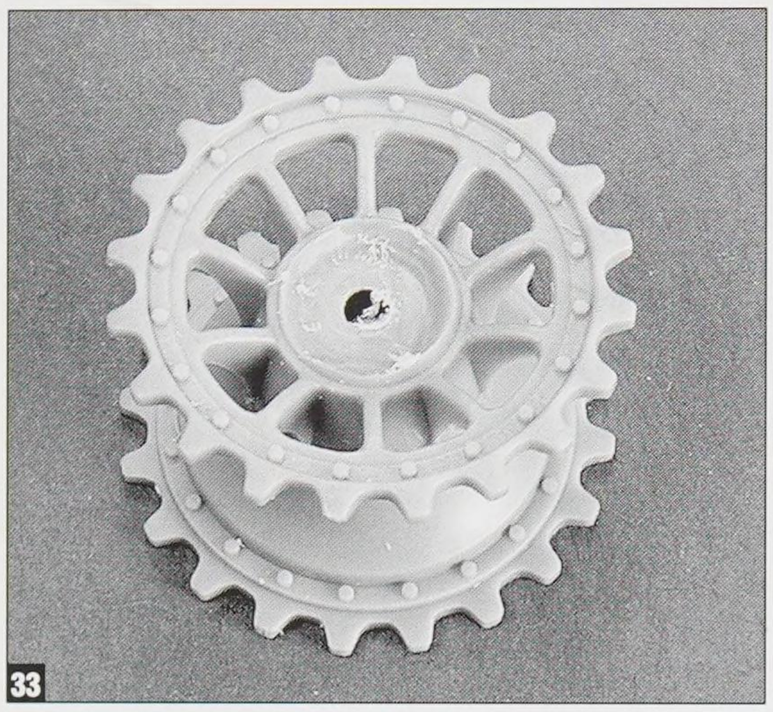
Until October of 1942, the Tiger used the same rectangular convoy light commonly seen on many other German vehicles. This was also obtained from the Tamiya set and mounted on a bracket according to the Doyle plans (**photo 32**). Note the installed Aber fender brackets.

Vehicles manufactured until August, 1942 had slightly different drive sprockets. On these early vehicles, the bolts on the sprocket hubs were aligned with the spokes of the sprocket (as opposed to in between the sprocket arms, which was the later configuration). To accomplish this, I first ground down the existing hub using a Dremel (**photo 33**), then carefully scraped down the remaining plastic with a #17 (X-acto) chisel tipped bit (**photo 34**). Extra drive sprockets are provided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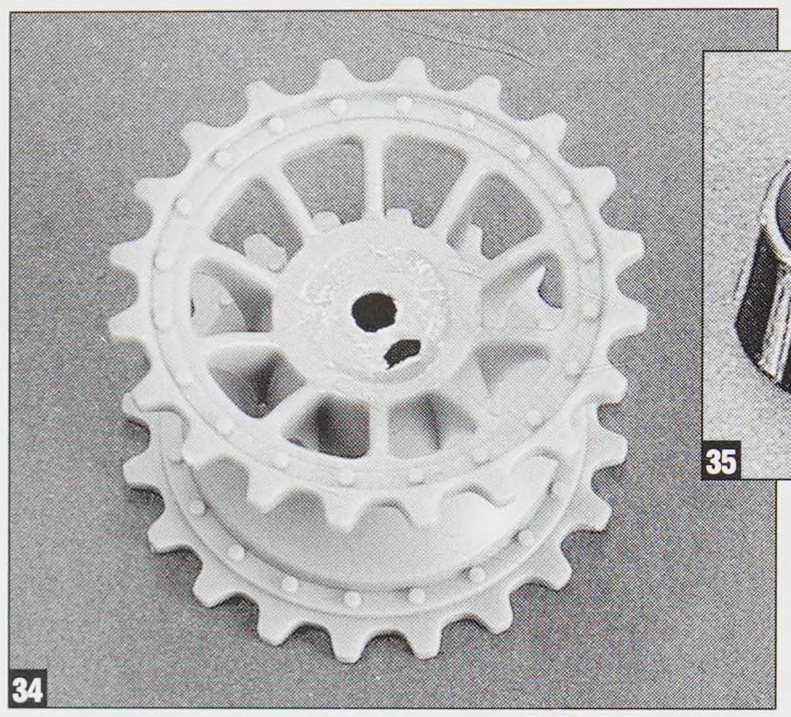
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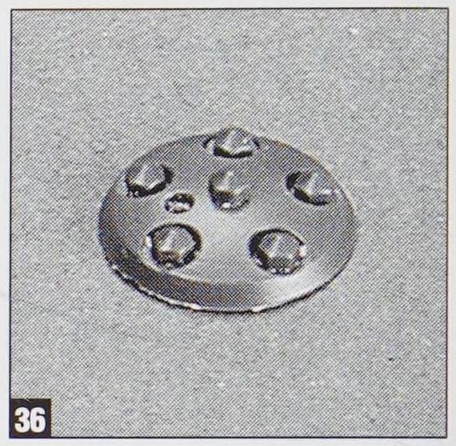
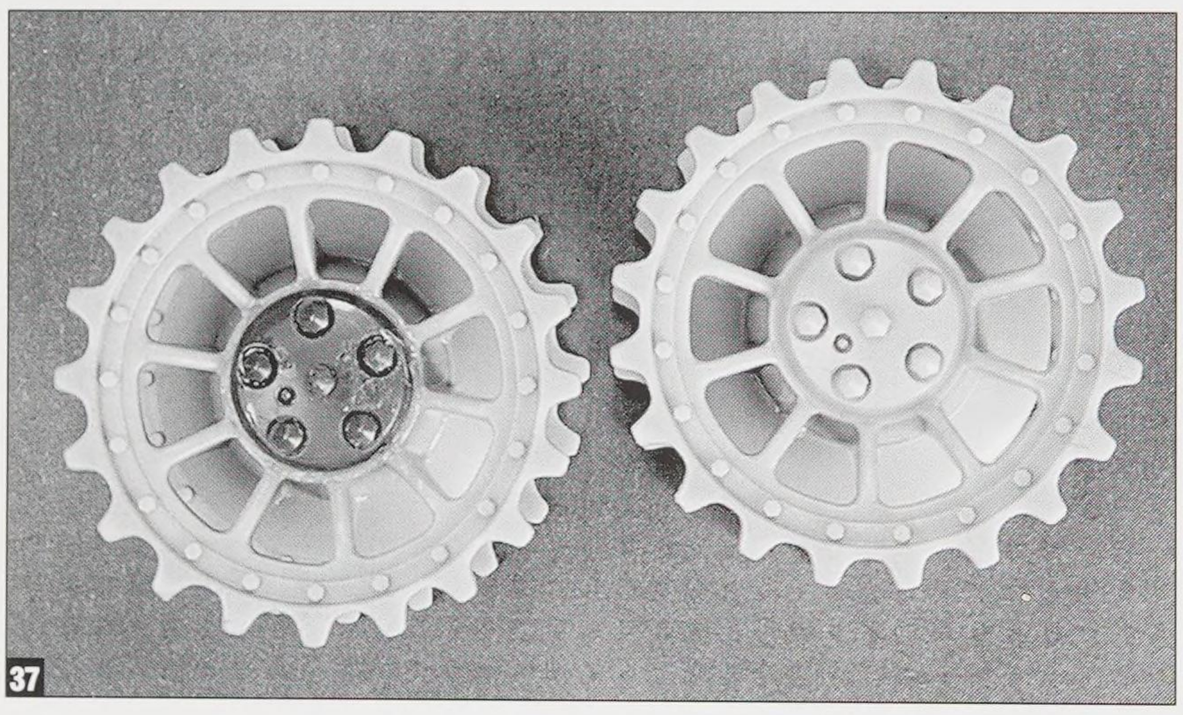

36

in the early production Tiger from Tamiya (seen here molded in dark gray plastic). A set of these was cut up to provide the hub. First, all the excess plastic was cut away from the hub (**photo 35**). This was then sanded (and sanded, and sanded) to remove the remaining material (**photo 36**). The new hub was attached with liquid cement to provide enough time to properly position it (**photo 37**). The stock hub is shown on the right.

Another unique detail of the prototype was the absence of the retainer arm on the commander's hatch. The small hole for the arm in the top of the hatch was filled (**photo 38**) and the spring mechanism was removed and the space filled (**photo 39**). This last photo shows how the notch for the later hatch stop was filled and also shows the installation of the simple square stop. **Photos 40 & 41** show the finished hatch, which was also hinged to remain workable.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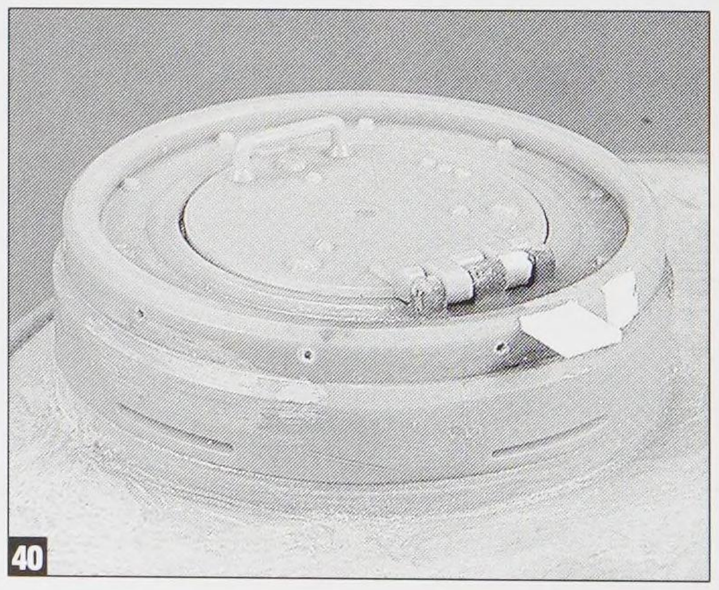
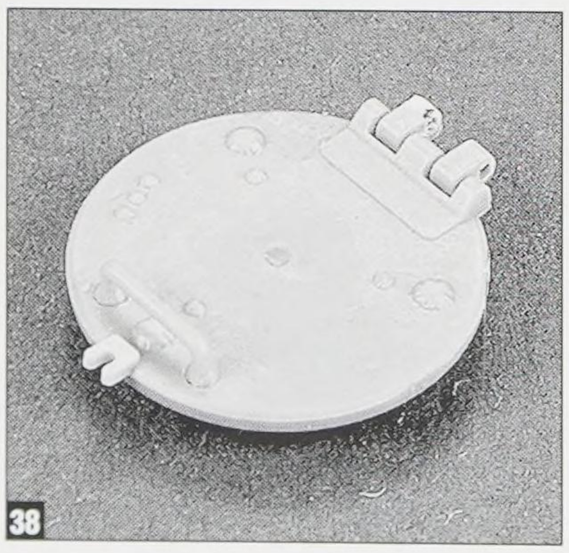

40

One of the last details added was the individual wing nuts around the wading cover for the turret ventilator. Needless to say, they are very delicate. I used a Grandt Line product for this. Small holes were drilled to receive the castings and their shafts were left long. This makes them a bit stronger, a plus later when drybrushing. The molded on handle for the cover was replaced with brass wire (**photo 42**). This cover was to be used in conjunction with the snorkel in order to keep water out of the turret. For some reason, it is occasionally seen installed in the field even when fording seems a long way off! Some photos also show only the wing nuts installed.

One area where the Doyle plans are incorrect is the rear fenders of the prototype. He shows them as being hinged, but close scrutiny of the photos shows that they are the early, bolted on type. I used two of the little beauties provided in the Aber set for the early Tiger I (**photo 43**). The bolts were added later. The fenders were installed onto bases from the same Aber set (see photo 32). These delicate pieces were added after painting because of the position of the Notek light.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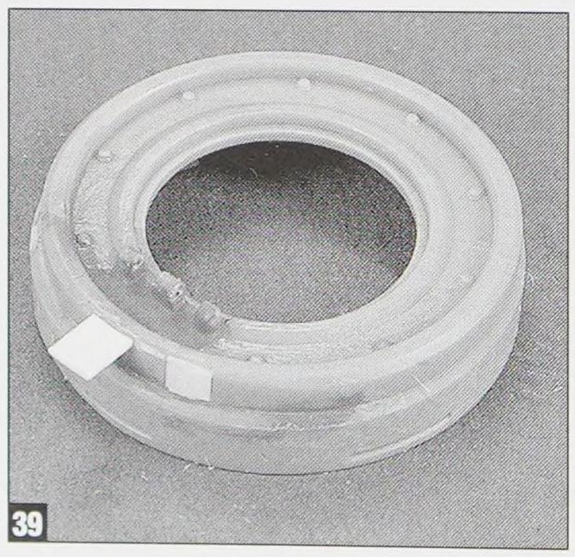
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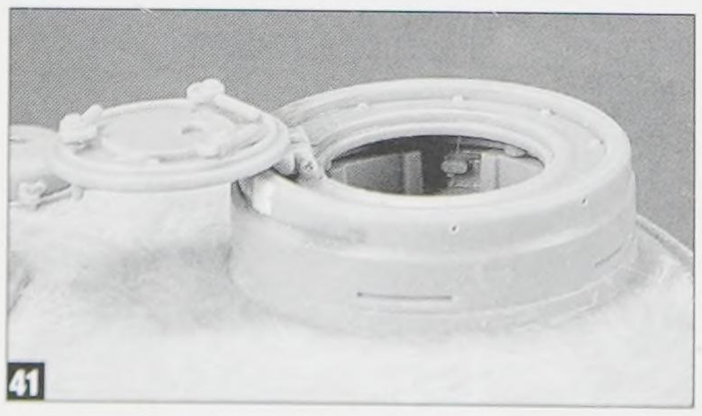
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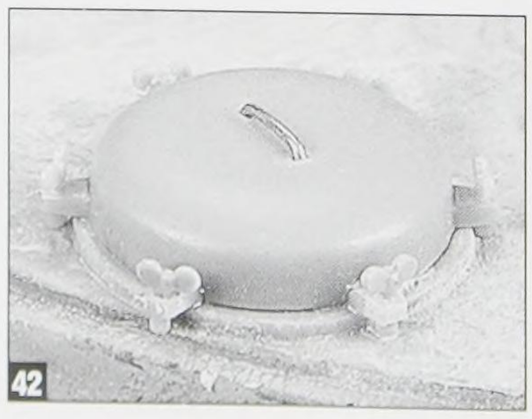
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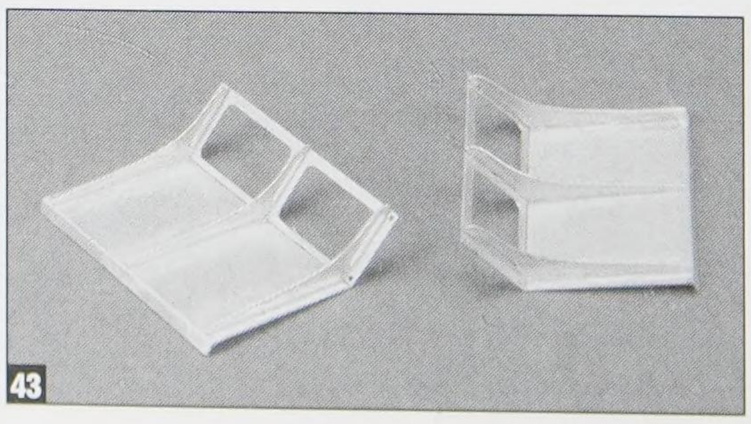
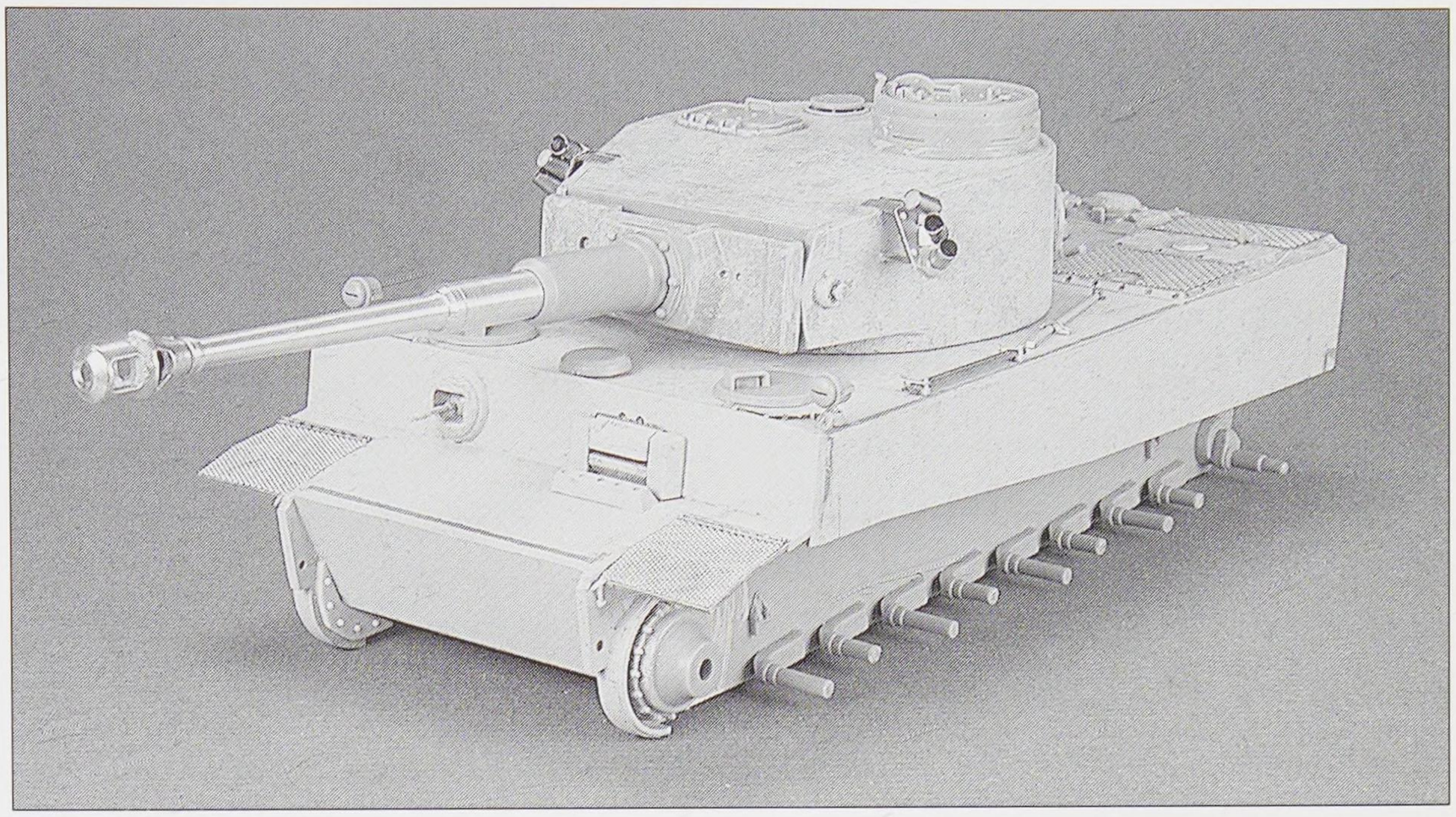
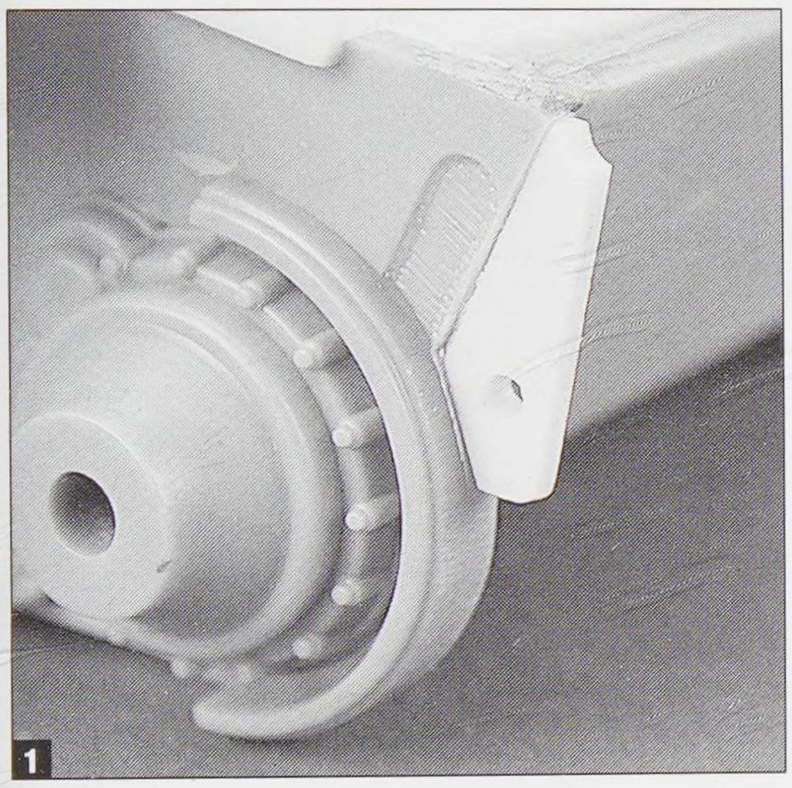

43

Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. 250008

The 1/Kompanie of the Schwere Panzer Abteilung 502 was the first unit to receive Tiger tanks and send them into combat. They received these tanks in August of 1942 and they went into action for the first time on September 16. These very early tanks were essentially the same as the prototype with a few very important differences.

Again, the early Tamiya "Afrika Korps" kit was used and modified. Like the prototype, the front hull was designed to accept the Vorpanzer described in the previous section. However, these early tanks were fitted with the familiar round armored transmission plate instead. They retained the same front shackle area, but the second hole was plugged and the lower one was retained for the shackle itself. Since this project began, Cromwell Models of Scotland has offered a prototype conversion kit. This small kit provides a number of the parts (including the

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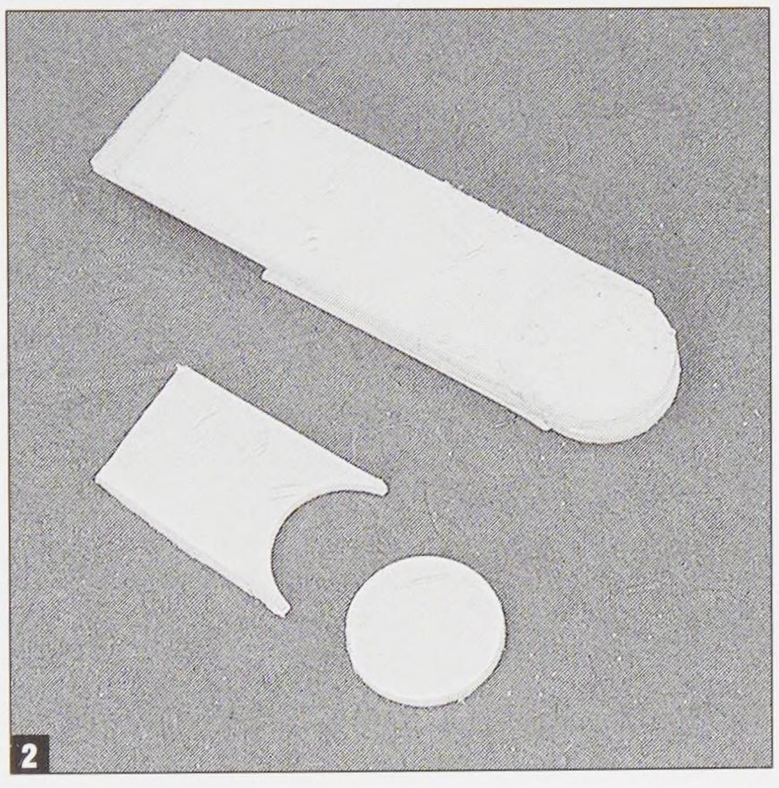
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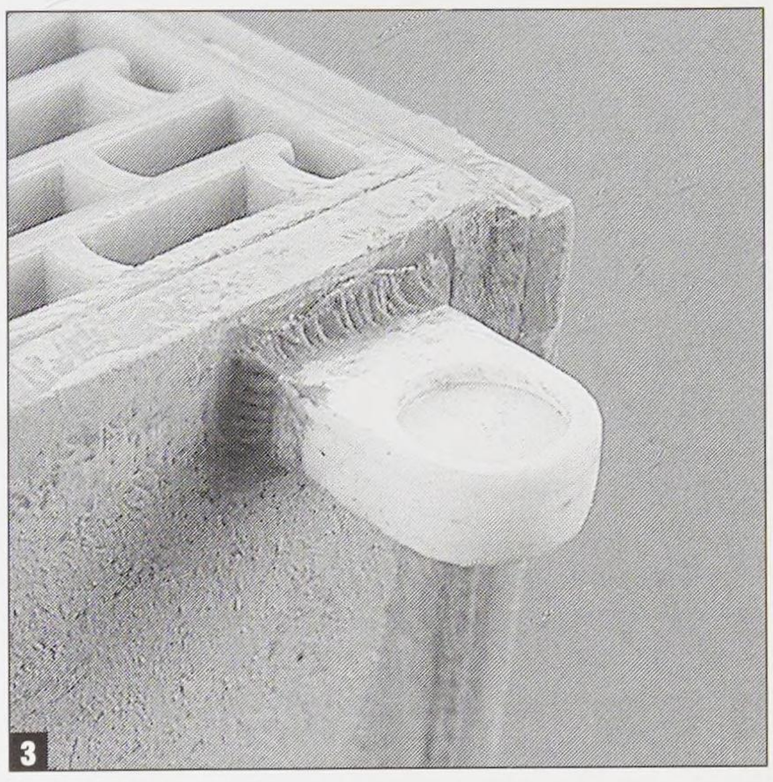
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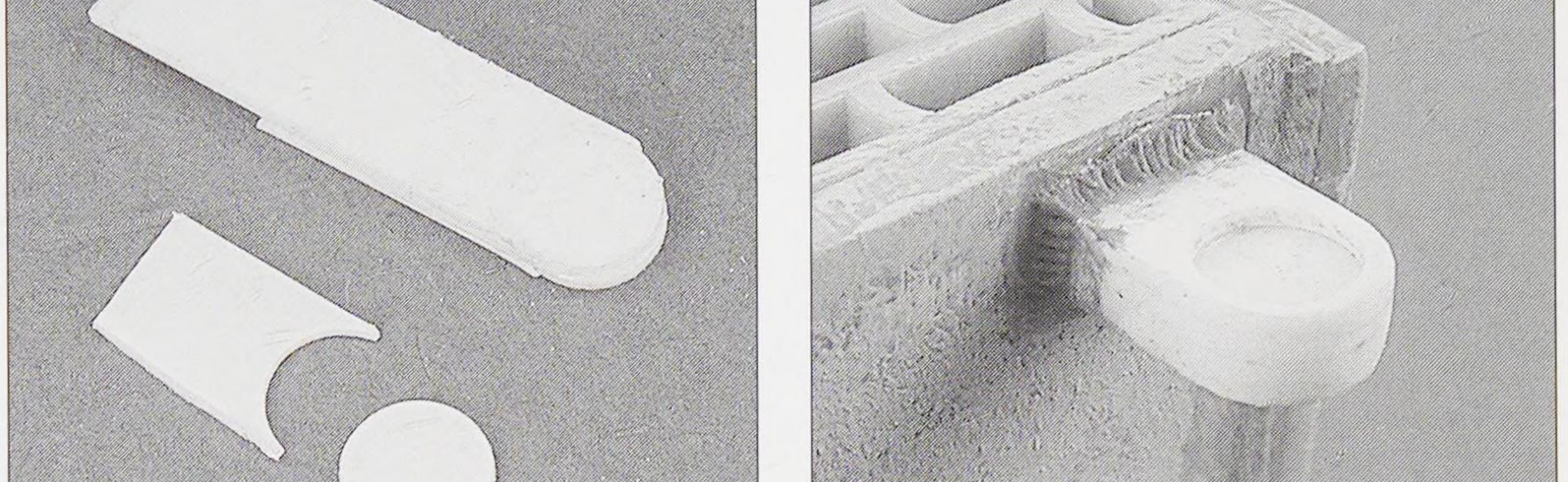
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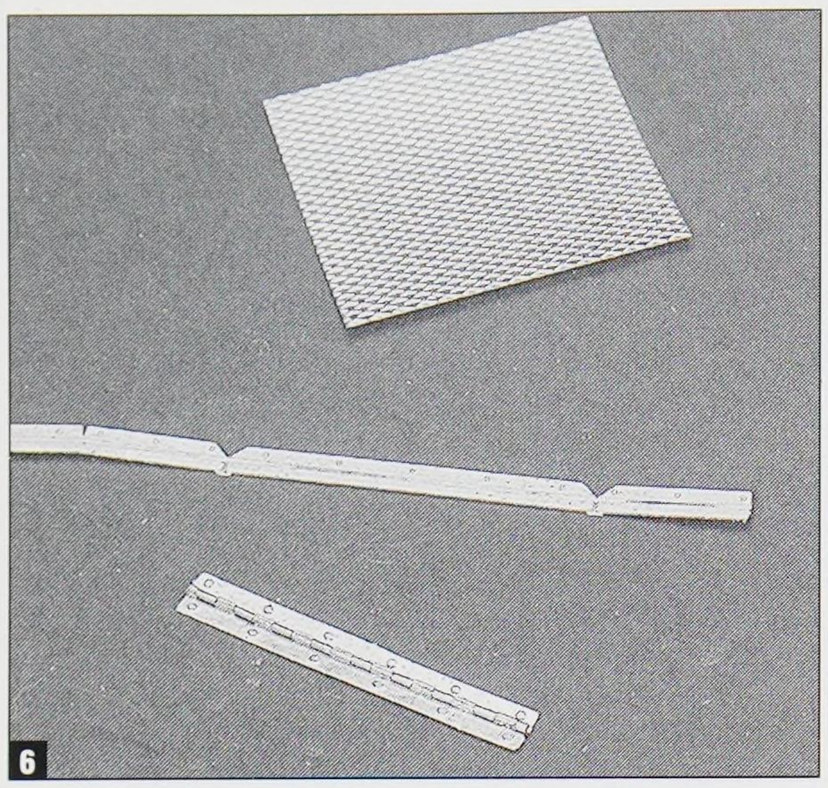
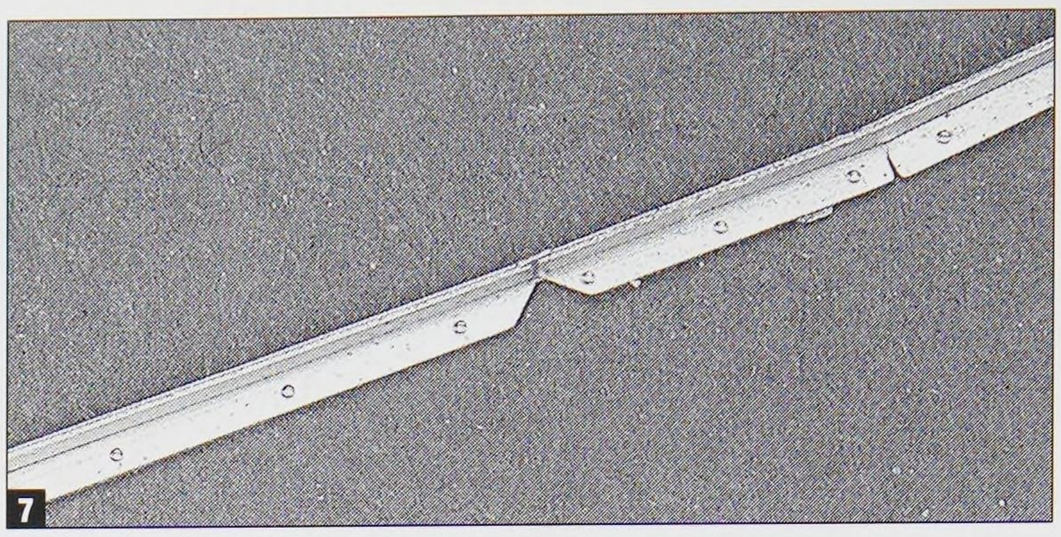
Vorpanzer) needed to create either the prototype or this version. Among the parts provided are the two shackle bases. Cast in resin, they save considerable time in creating the unique shape of this area. They are shown installed in **photo 1**.

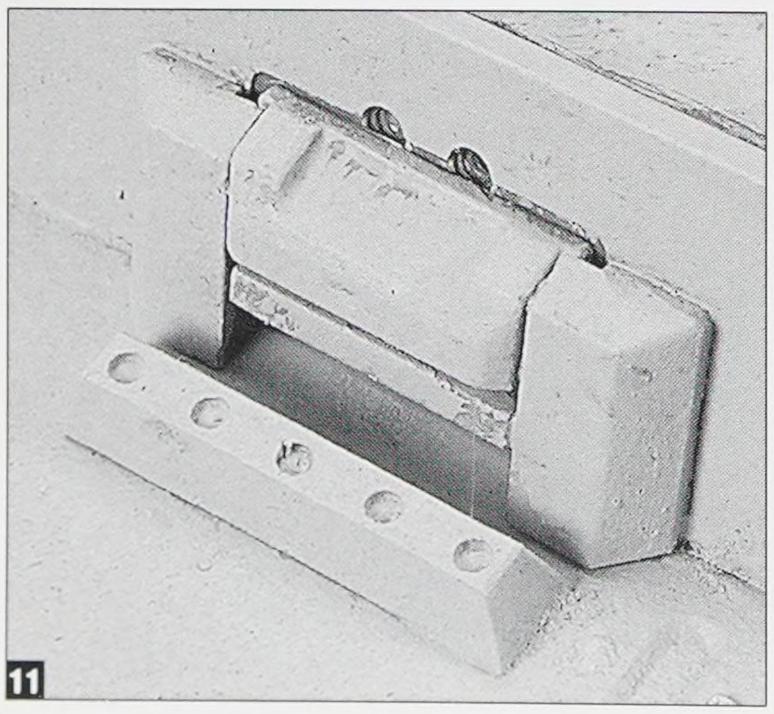
Reference photos show that at least some of the very first deliveries still had the "phantom" antenna base on the right rear hull. I made this a bit differently than I did in the previous section. First, a disk was punched using a Waldron punch and die set (#6, .160), then the disk was reinserted into the scrap, which had been trimmed flush with the radius of the circle (**photo 2**). This method also allowed me to select a smaller circle (#5, .120) that would be used to create the recessed area on the top of the part. These strips were laminated together to create the finished part (**photo 3**). A small amount of red putty was used to simulate the weld bead around the base.

The middle filler caps were also modified like the prototype. This time, I made the base flange from styrene and **photo 4** shows how these were scribed with a stylus several times, then popped out of sheet stock. A small amount of sanding cleaned them up. The filler caps themselves are in the Cromwell kit, although only two are included. As outlined in the previous section, I also replaced the one near the snorkel base (I did this on all the tanks that had them). These extras came from a variety of sources, but one of the most convenient is the VP Tiger Engine Set. This contains the engine deck grills molded in resin and the caps were a cinch to sand off the softer resin parts.





When the hinged flaps for the exhaust stack were first introduced, the hinges were angled off center. This is simply a matter of installing the Tamiya parts at an angle and requires some trimming of the bases. The Jentz/Doyle plans show this quite clearly and were used as a reference for the proper angle (although I later realized they are slanted the wrong direction). **Photo 5** shows them installed. The rear filler cap and flange are also visible in this photo.



The solid metal area over each track run seen on the prototype was replaced with a bent metal track guard on the production version. Several hulls had already been manufactured with the Vorpanzer configuration, so on some vehicles the armor was cut away with a torch. Regardless, I used the Aber early fenders. These are complete with a devilish hinge and frame. The hinge was quite an odyssey and its construction is covered later. The frame for the fender is quite clever and needs several precise bends to form into the shape installed under the fender plate. The base components are shown in **photo 6** and the first fold in the frame is shown in **photo 7**. **Photos 8 & 9** show the frame completed and installed under the fender plate. The fit was perfect and superglue bonded the two parts with no trouble. **Photo 10** shows the completed part from the top prior to the installation of the hinge. There are left and right pieces.

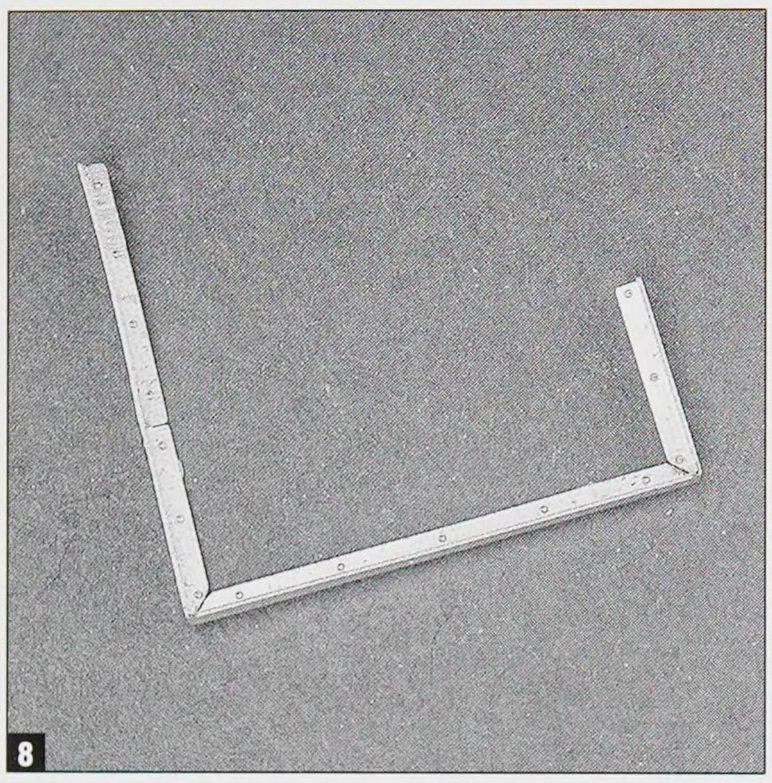
In front of the driver's visor there is a large armored splash shield. This is attached to the hull with five steel rods and on some early vehicles the ends of these rods were recessed into the top of the splash guard. On later Tigers, the rods were flush with the top of the guard, although they are still visible. This part can be made simply by drilling a series of holes in plastic strip and laminating it to the top of the kit part. I used a resin part found in MR Models general detailing set on the Tiger and this is shown in **photo 11**.

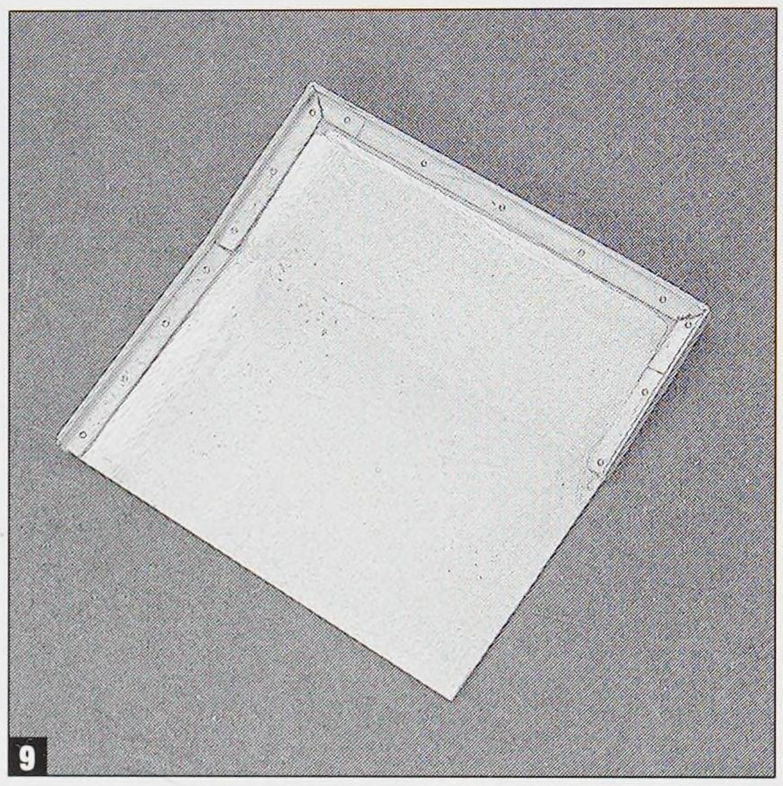
These early tanks had minimal external equipment and a very different arrangement for the gun cleaning rods. There was no provision for stowing tow cables on the top deck alongside the rods. There were only two rods stowed on the left and three on the right. I modified the great little resin parts found in the Royal Models detailing set for the early Tiger. I removed the appropriate number of spaces between the two ends for either side. I also shortened the etched brass bar that forms the top of the clamp. A Grandt Line wing nut was used to complete the part. Mini-Mecca pre-cut hollow stock was used for the actual rods. **Photos 12 through 14** show the clamps and **photos 15 & 16** show each finished assembly.

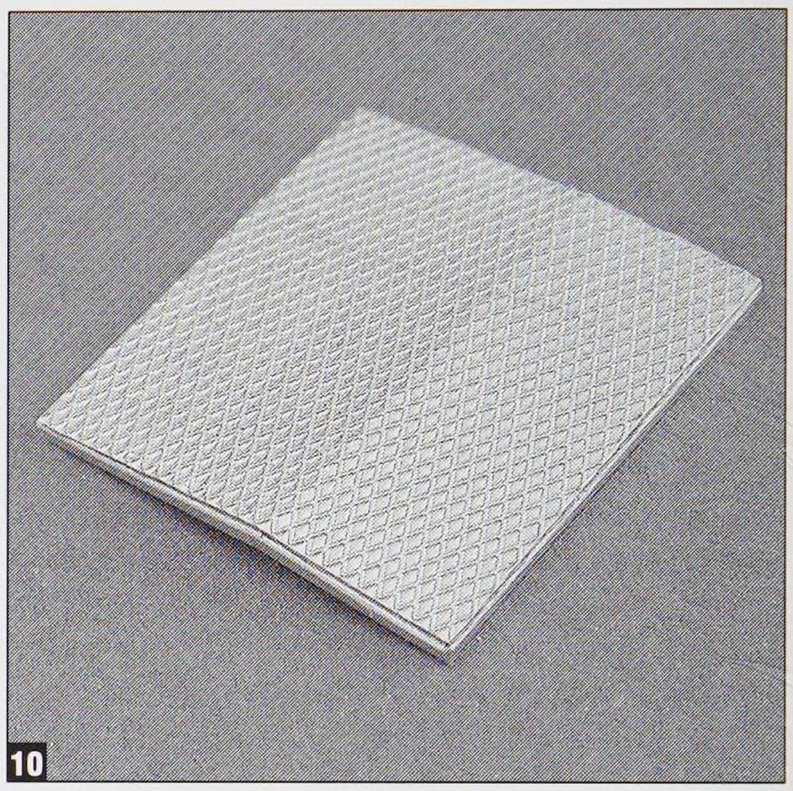
Like all the models in this project, the Bosch headlights were extensively detailed. Aber straps and various punched circle and hex shapes were added to create the result shown in **photo 17**.

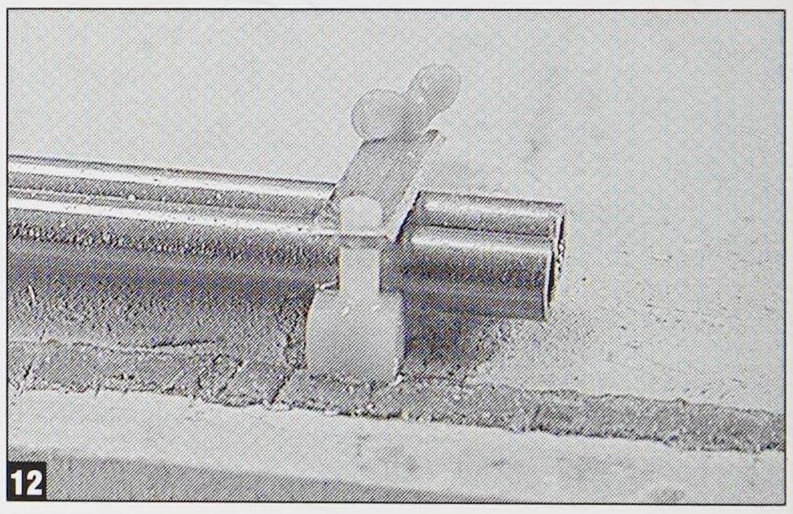
The provision for the Feifel air-cleaning system and the hatch stops had not been introduced when the vehicle depicted was produced. All of the bolts and marks on the Tamiya kit were removed and the slot in the engine access door was filled. The final backdated deck is seen in **photo 18**. All of the modified filler caps can also be seen.

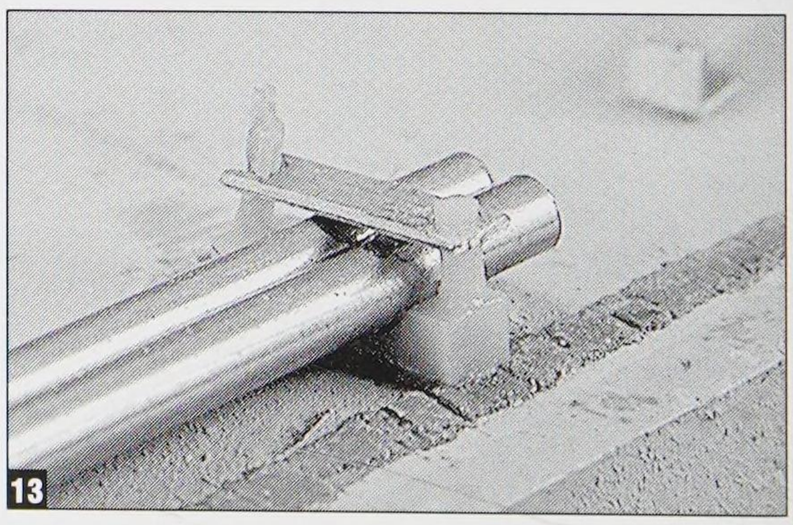
My model is based on an actual vehicle issued to the 1/Kompanie of the Schwere Panzer Abteilung 502. Photos of the 1/Kompanie's vehicles exist from a number of different sources. Unfortunately, none of these show the very same vehicle from more than one angle.

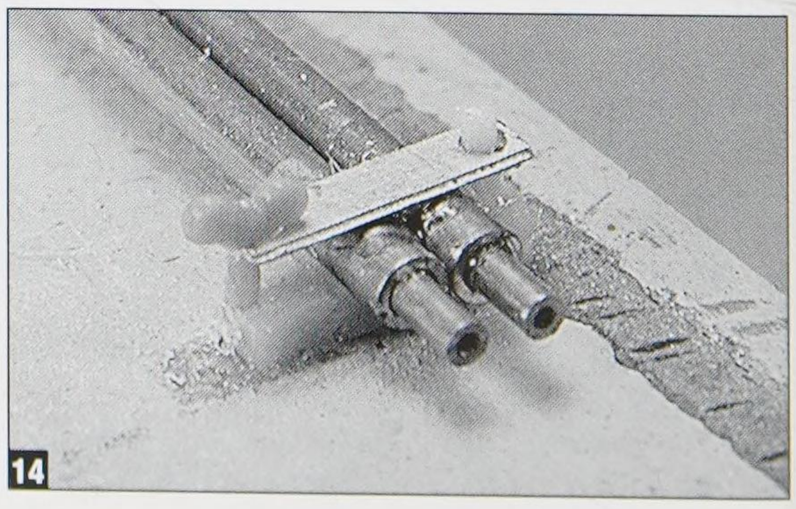


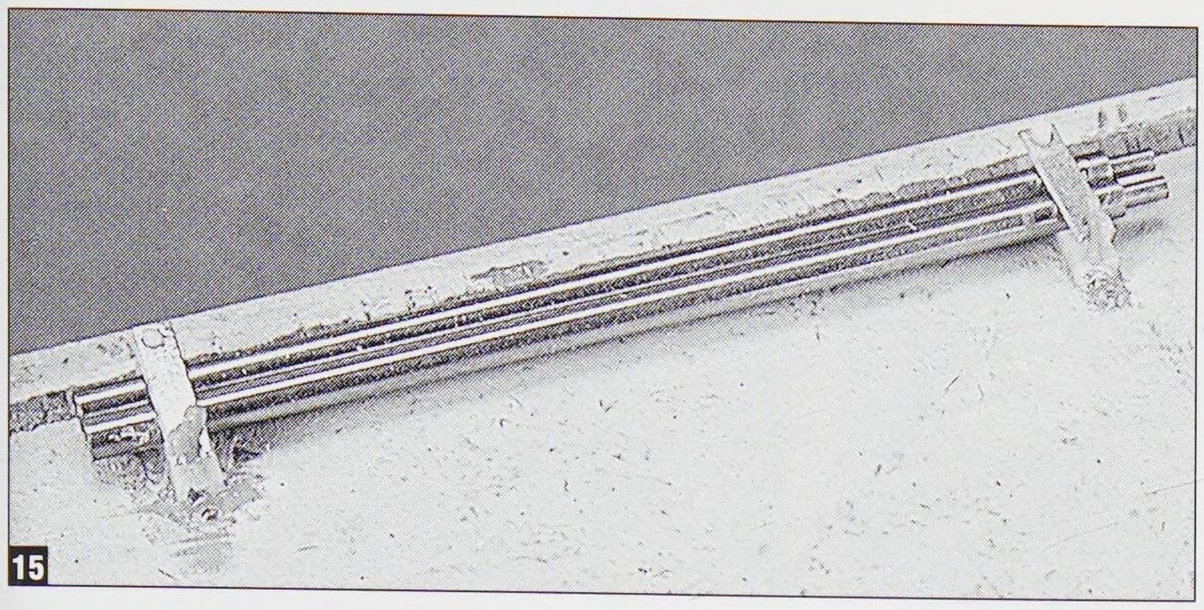








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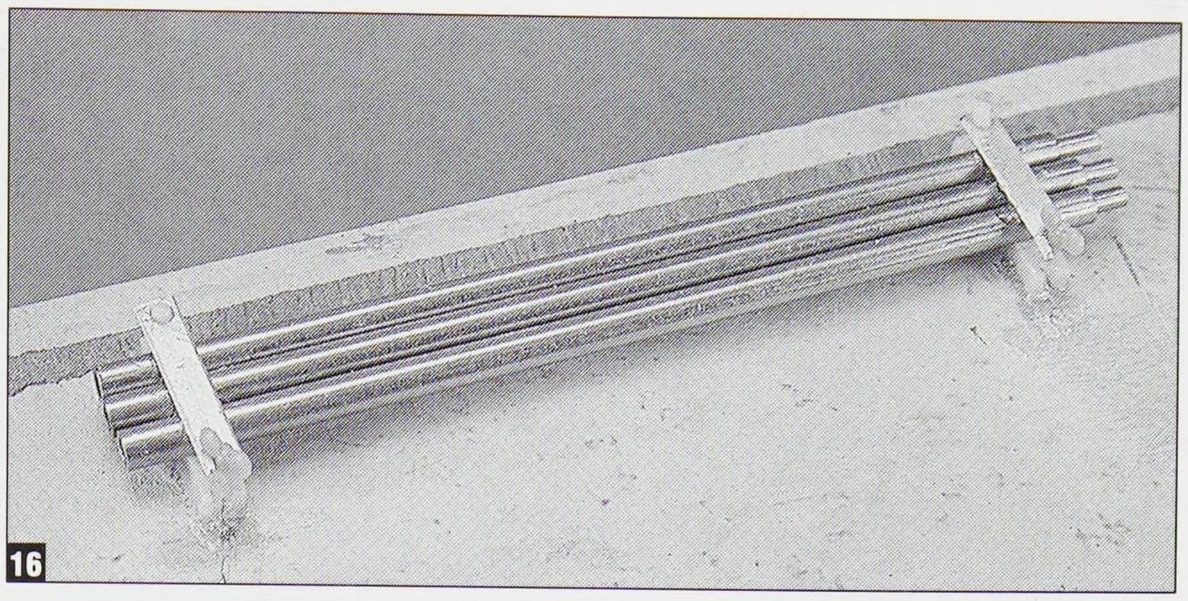
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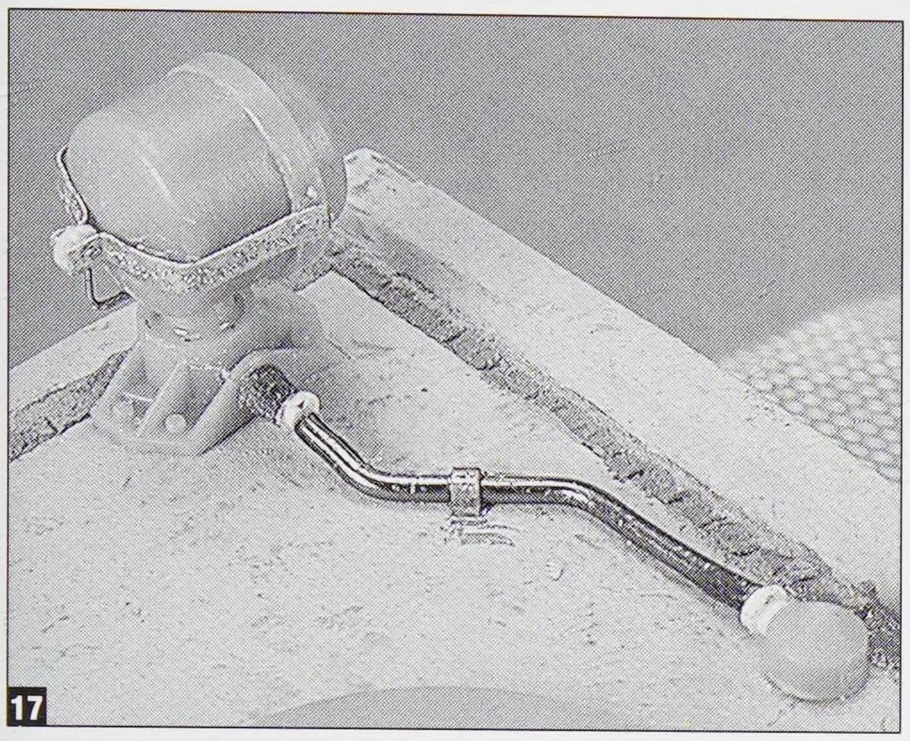
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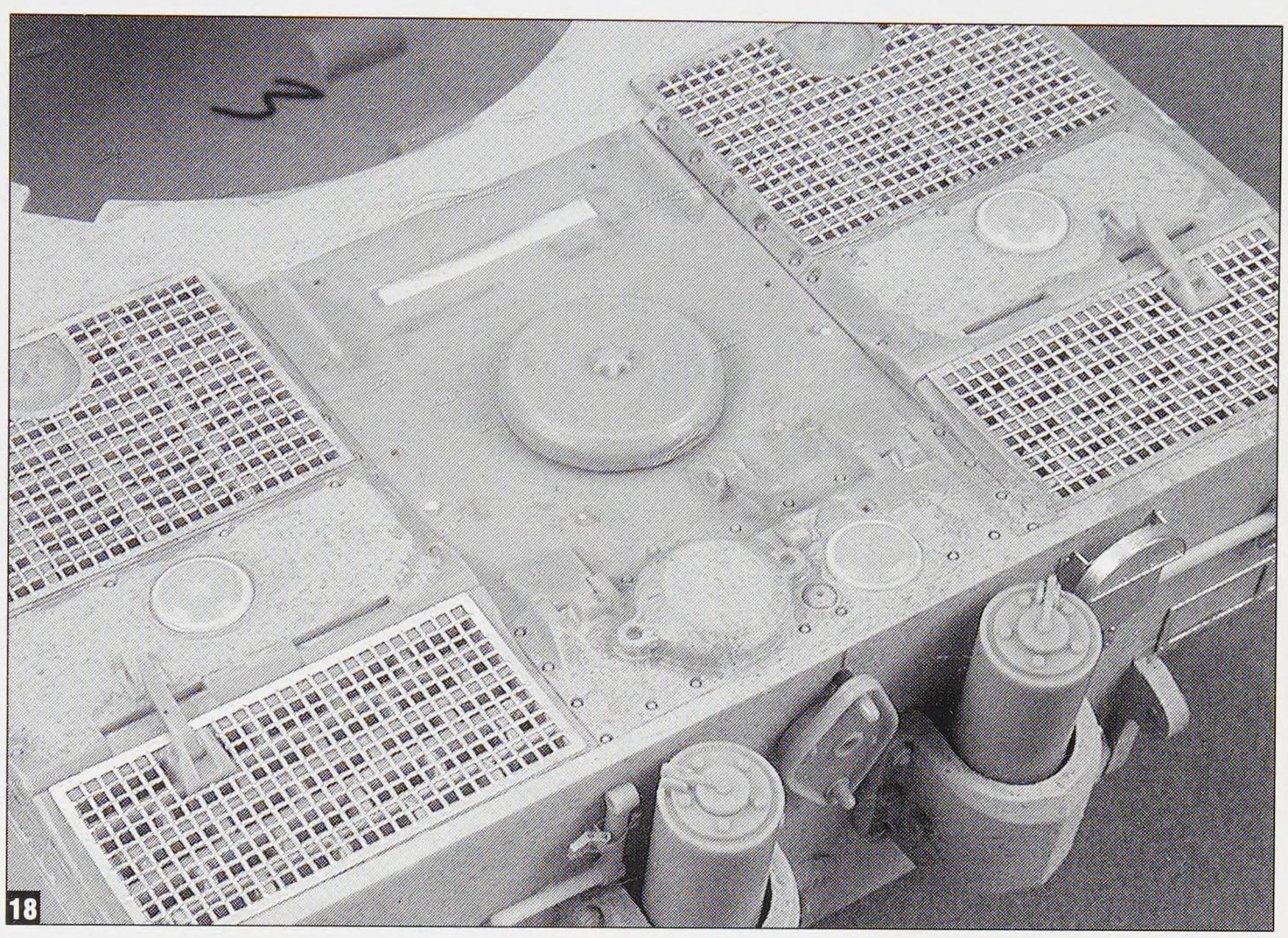
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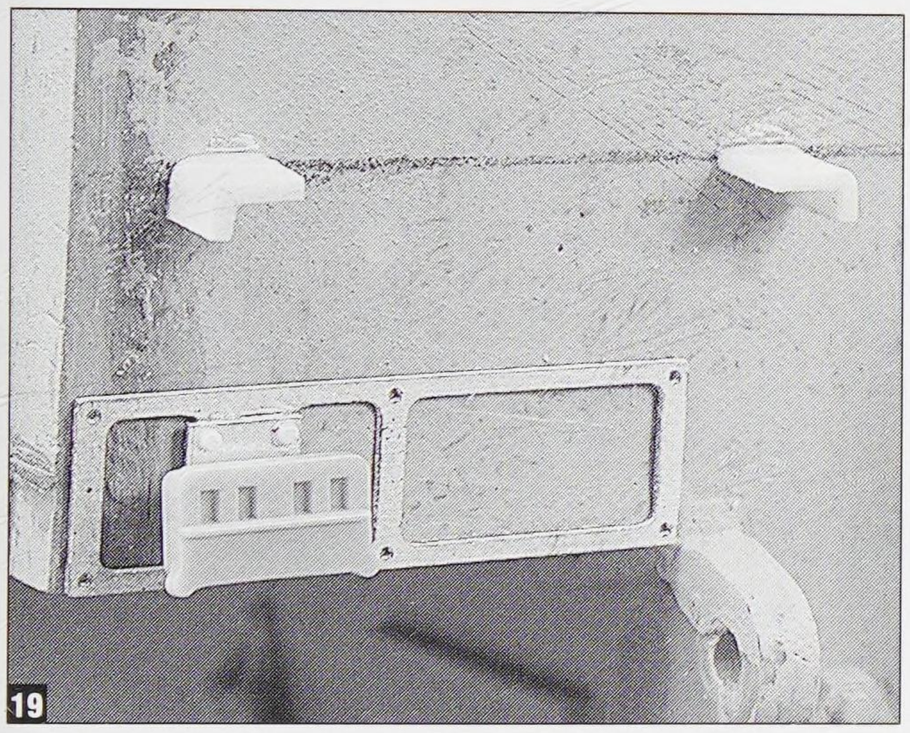
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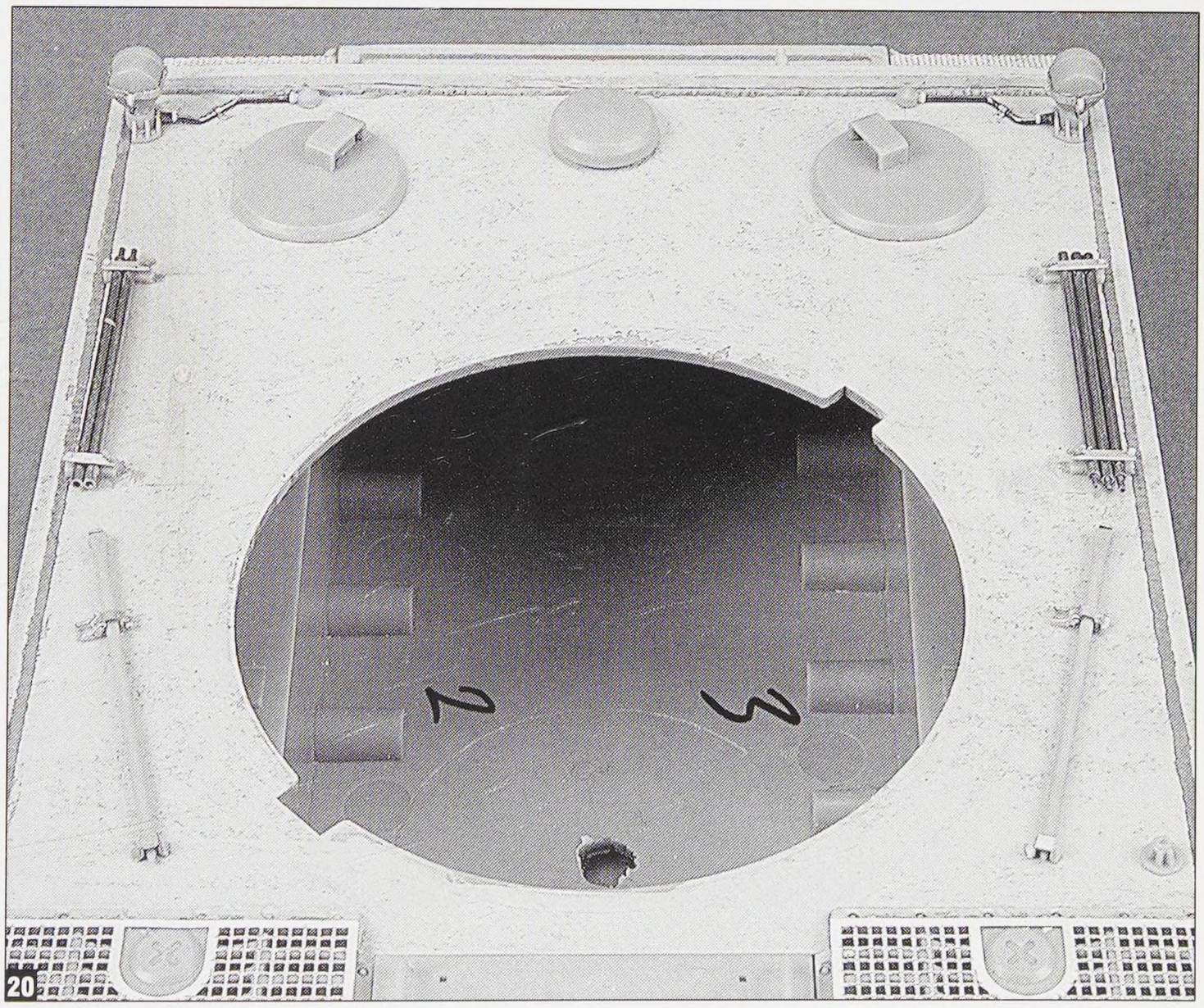

20

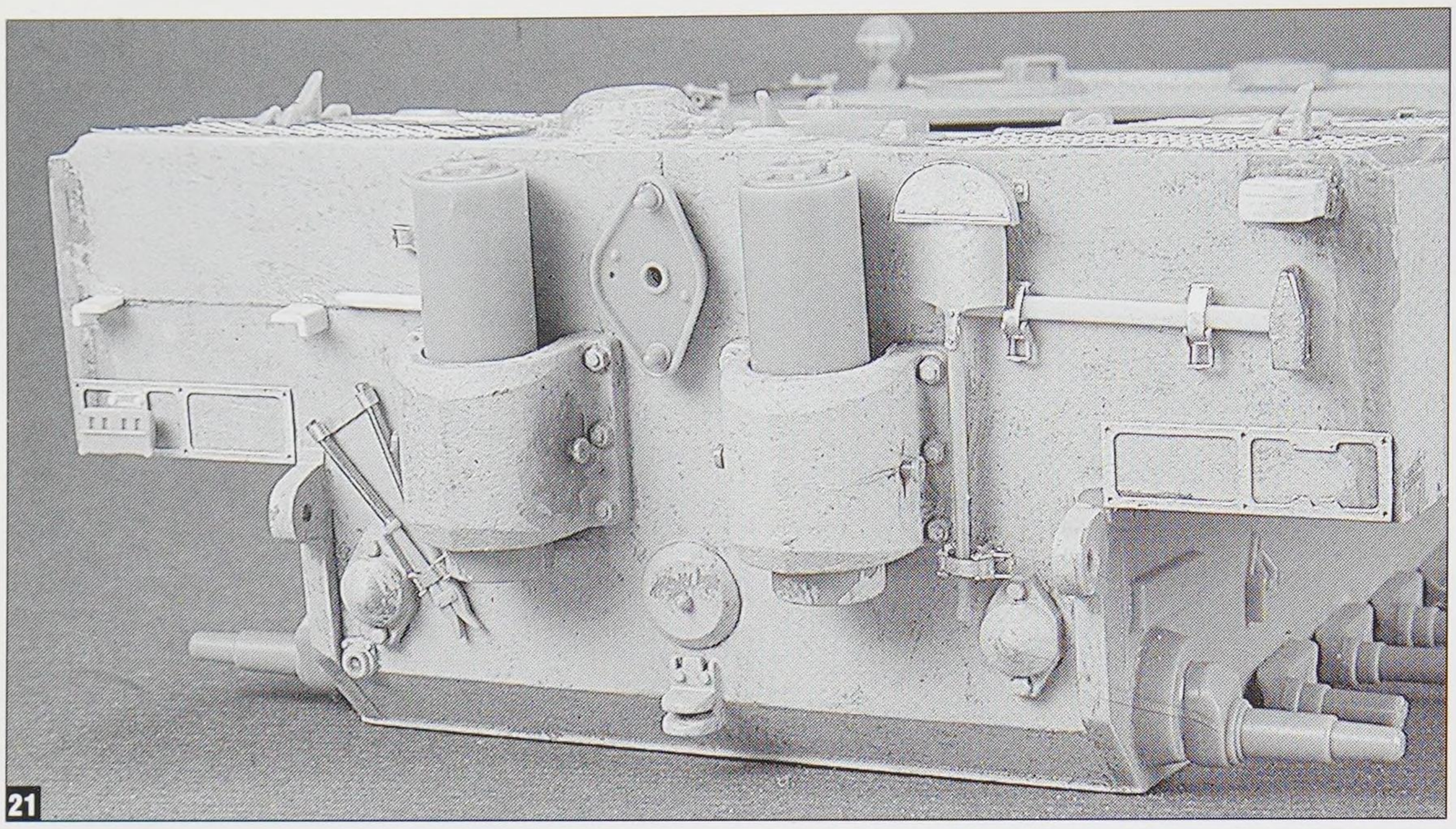
Production details found in the Jentz book help fill in the gaps, but to see what modifications were made by the actual unit, one must look at the photos. There is a particularly good shot of vehicle 111 in *Tigers in Combat, Volume I*. This photo illustrates all of the rear hull stowage and it's quite different from what is seen on later tanks. There was a strange pair of brackets on the left side of the rear hull. These may have been an early attempt at stowing a jack. I made them from angle shaped styrene. These are shown in **photo 19**. Photo 19 also shows the Panzer IV style Notek light and the earlier fender brackets. The brackets are Aber parts. The fenders (from Aber) are the same as the prototype.

Two short wrecking bars were stowed at an angle on the top deck and these were taken from the Tamiya Afrika Korps kit. Only one is provided in the kit, so another kit was raided. The finished upper deck is shown in **photo 20**.

Using the above-mentioned photo as a reference, I created the tool stowage seen in **photo 21**. Note the starter crank handle tucked behind the left exhaust stack. The base of the crank is not installed in the photo and was presumably stowed somewhere inside the tank. This crank handle is somewhat elusive on later vehicles. The base is clearly seen stowed beneath the right side stack, but evidence of the crank handle stowed anywhere on the top deck doesn't appear until much later. More on this in later sections.

The prominent hull weld fillets were still present on this early vehicle (**photo 22**). These were made using the method described in the previous section.

The smoke candle launchers on the turret were extensively modified using parts from the Czech company, Elefant (**photo 23**). Their set contains gorgeous hollow tubes and resin smoke candles to stick inside. I later decided on a variety of parts for each of these teeny assemblies, but the finished result is shown in **photo 24**. A complete explanation of this is found in the following section.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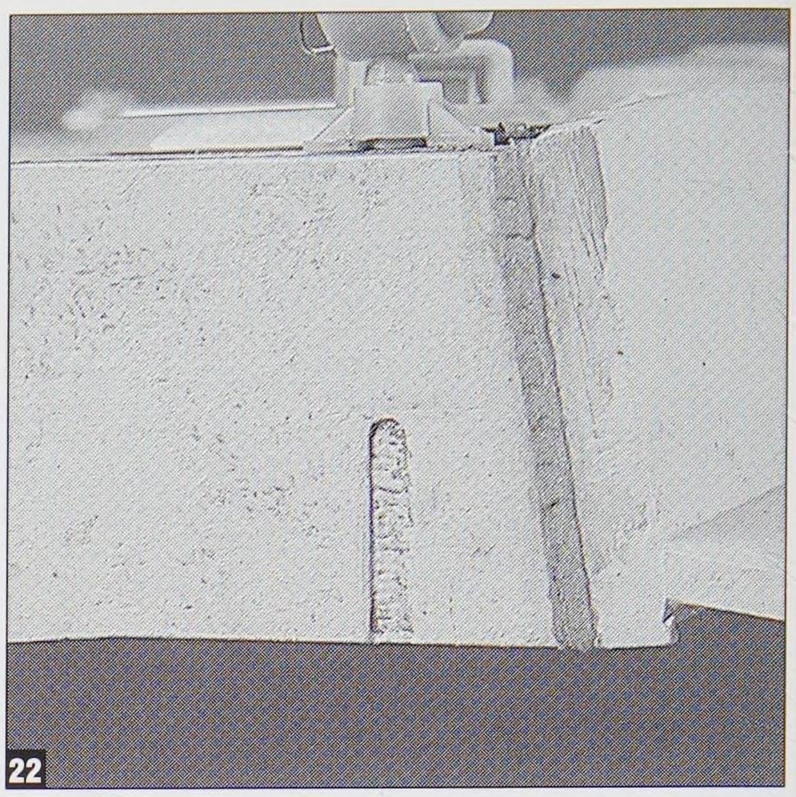
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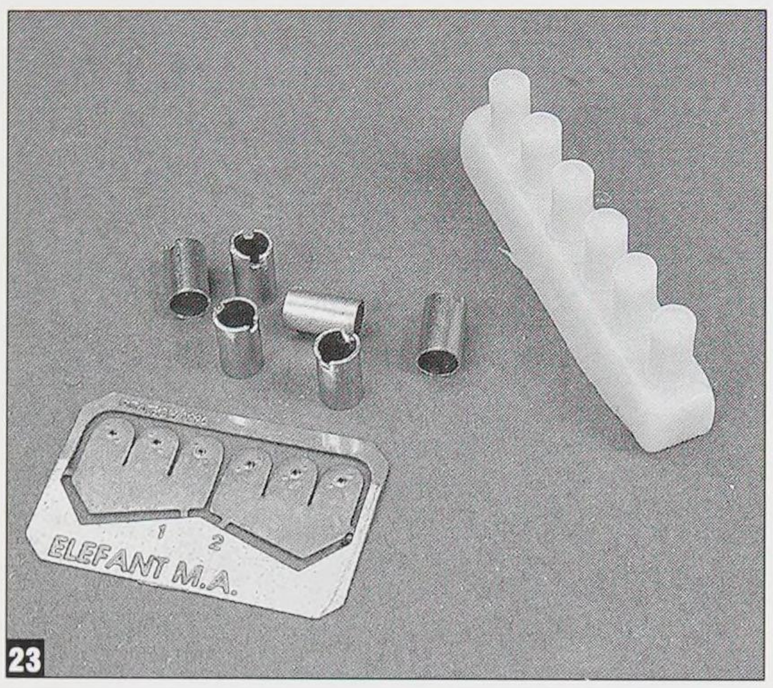

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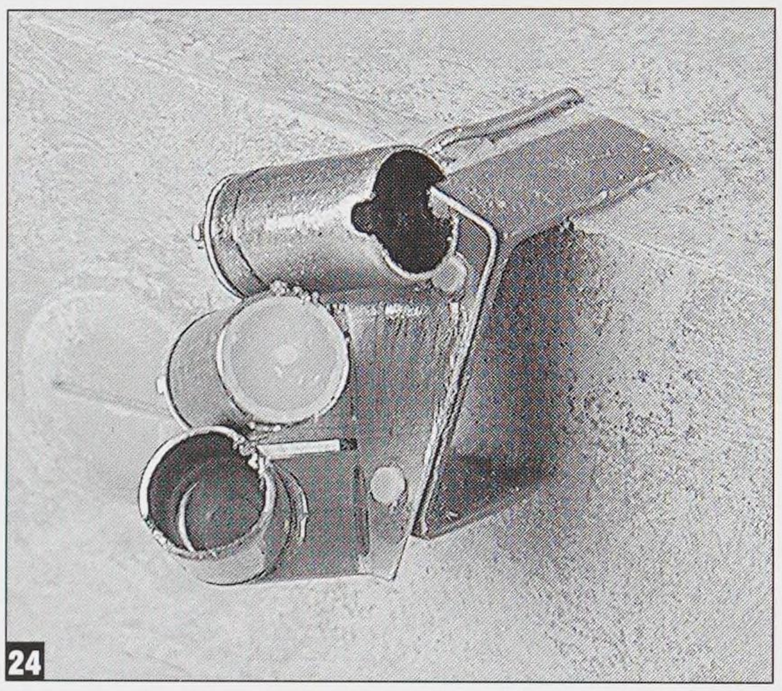
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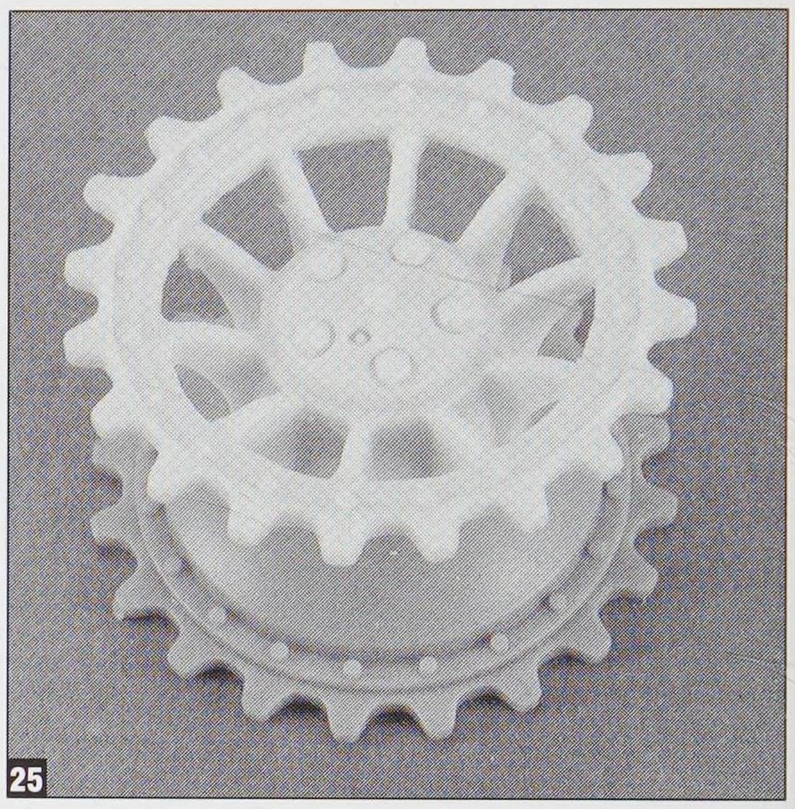
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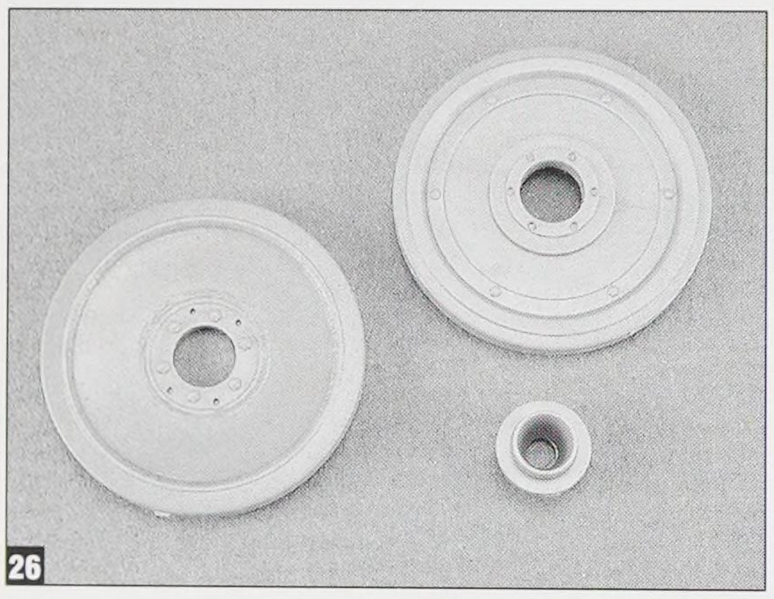
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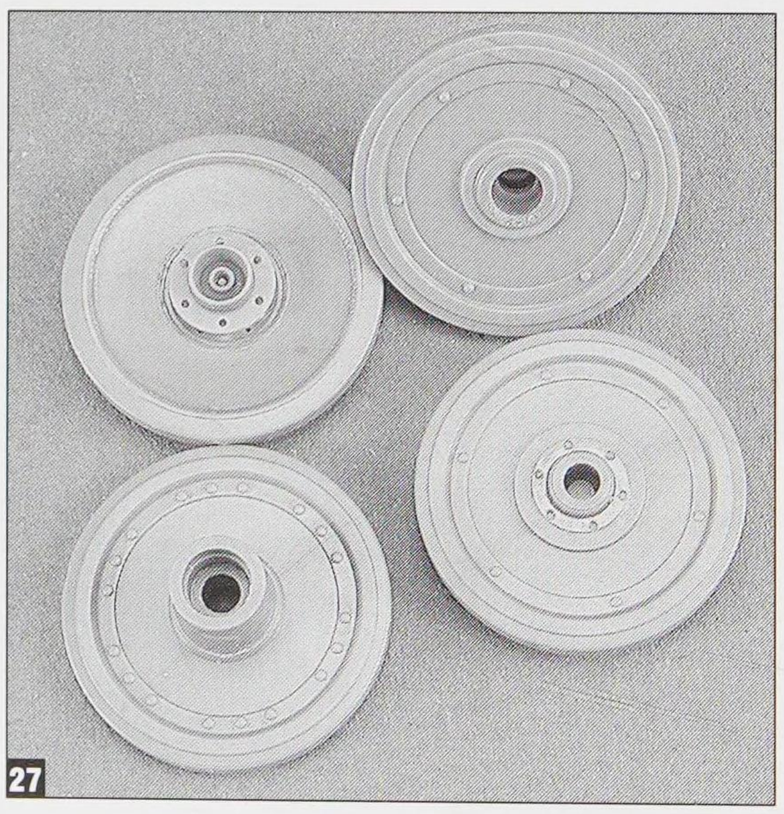
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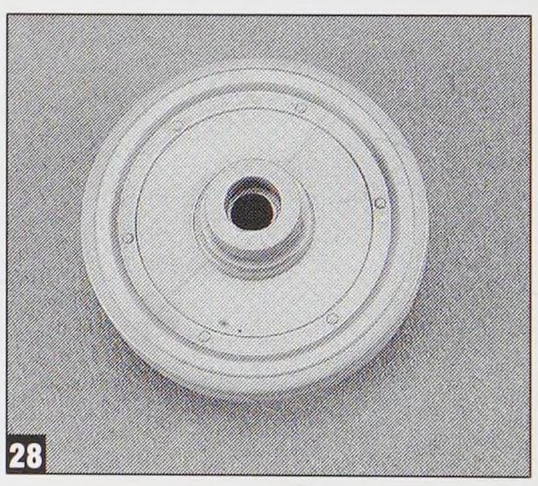

28

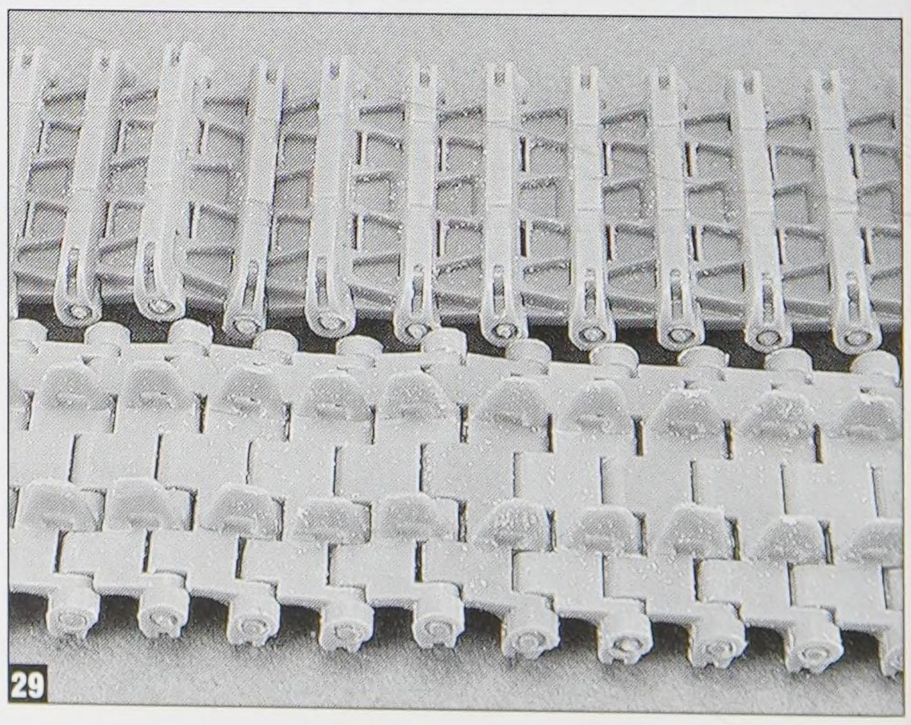
Like the prototype, this tank also had the earlier "bolt-aligned" center hubs for the drive sprockets. These are also part of the Cromwell back date set, although I thought the bolts could have been better aligned with the spokes. This is shown installed on the kit part in **photo 25**.

I decided to use the superb ModelKasten early Tiger wheels on this model. These were the only game in town for the years between the release of the later steel-wheeled Tiger and the rubber-wheeled versions. I also installed the early transport tracks on this vehicle so that it could subsequently be displayed on the Tank Workshop rail car. The Tiger I was too wide to safely transport by rail, so the outer set of wheels was removed and a narrower set of tracks installed.

There are several published photos of the very first tanks begin off-loaded in August of 1942. Several of these shots show that the bulk of the external stowage was not in place at this date. I think it's safe to assume that it was added later by the unit workshops. So, in order to place this tank accurately in the proper historical time frame, I checked the combat diary of the unit found in *Tigers in Combat*. The diary states that the unit and its Tigers moved from Tortolowo to Tossno, Russia on September 30th, 1942. It doesn't indicate whether this was by rail or road march, but it was good enough for me!

To install the MK wheels, a few modifications are necessary. First, all of the 16 roadwheel arms are trimmed down using two very nifty guide shafts provided in the kit. Then the various types of wheels were sorted to make the different pairs. The castings are all illustrated in **photos 26, 27 & 28**. Perhaps the nicest parts of the set are the inner wheel flanges. These can be installed throughout the wheel set to depict a vehicle prepped for rail transport. They are seen installed on a wheel in **photo 27**.

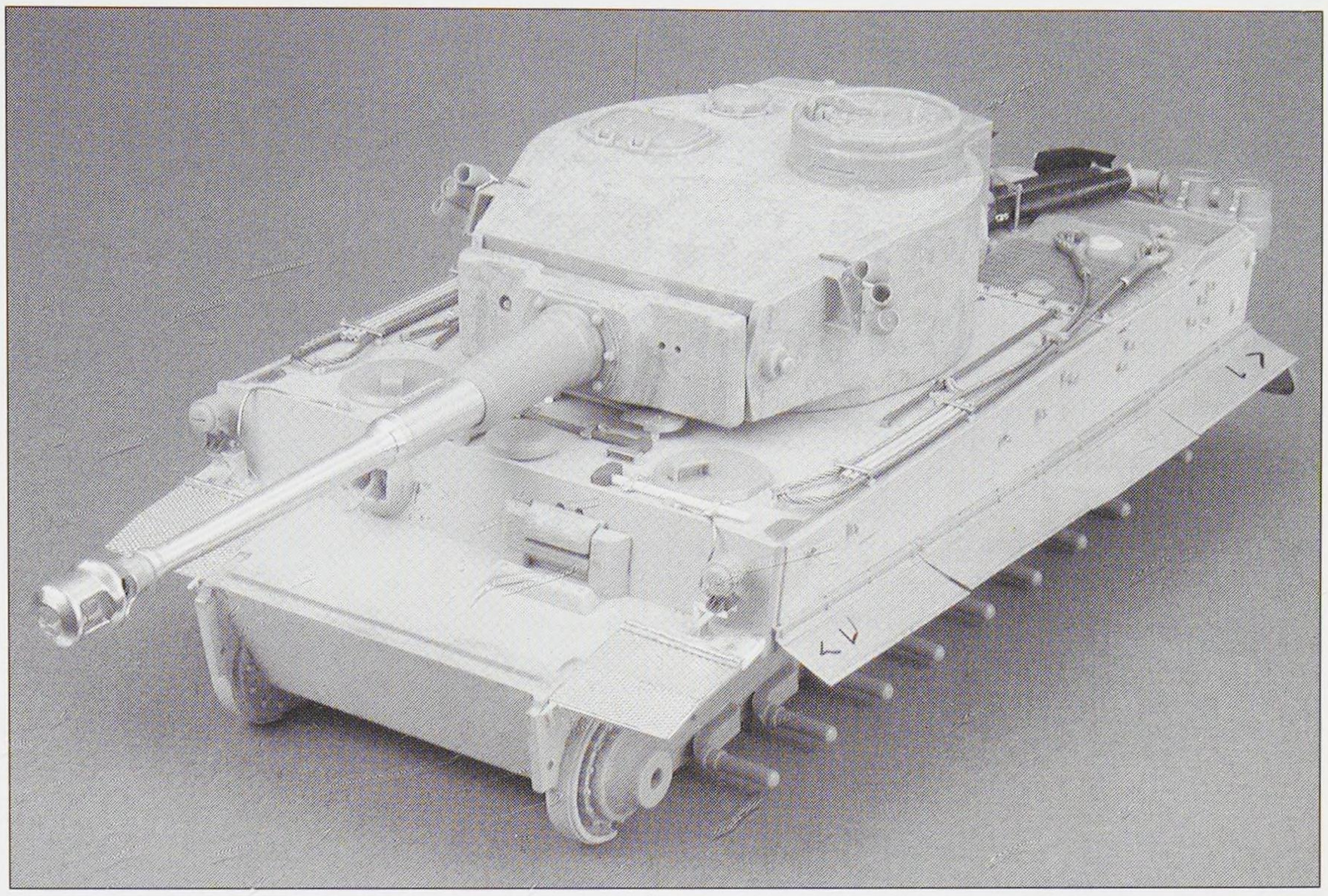
The transport tracks assemble just like any other standard set of ModelKasten tracks, They have separate guide horns and small inside and outside pins. You can't beat the detail of these styrene tracks, but I always grumble a bit when I install those teeny track pins. These make the tracks overly delicate, because the pins only grab the next link by a millimeter, or so. My rather dusty results are shown in **photo 29**.

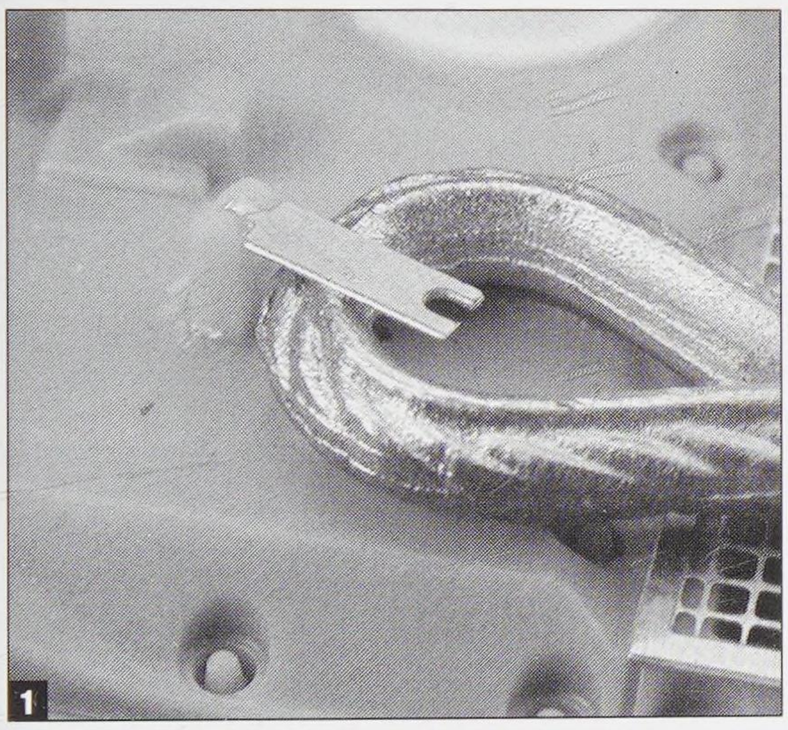

29

Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. 250021

The "Afrika" Tiger is the first kit that I really started adding a lot of stuff to. I was looking for a very specific tank to build. Very generally speaking, there were two distinct groups of North African Tigers. The first group of tanks to arrive had the most noticeable features. These features were the Feifel air cleaners (of course), the lowered Bosch headlights, early style fenders, backwards tow cables on the top deck, locally made muffler guards, early style track tool box and spare track link holders on the lower rear hull. Some of these tanks were very early production models, produced before the end of 1942, so they had those specific features, as well as the locally produced modifications. These mods were common to the 1st Company of the s.Pz.Abt. 501.

The second group of tanks did away with many of the early mods and, by and large, they were later production vehicles. It also appears that some of the early features were later changed when the tanks of the 501 were integrated into the 10th Panzer Division as the 7th and 8th companies of the Panzer Regiment 7. There was a specific set of modifications common to the second company, as well. But that's another story...

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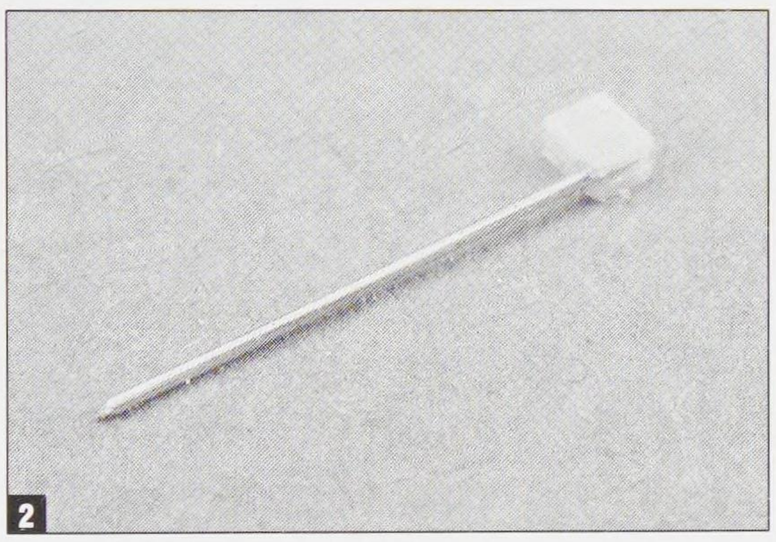
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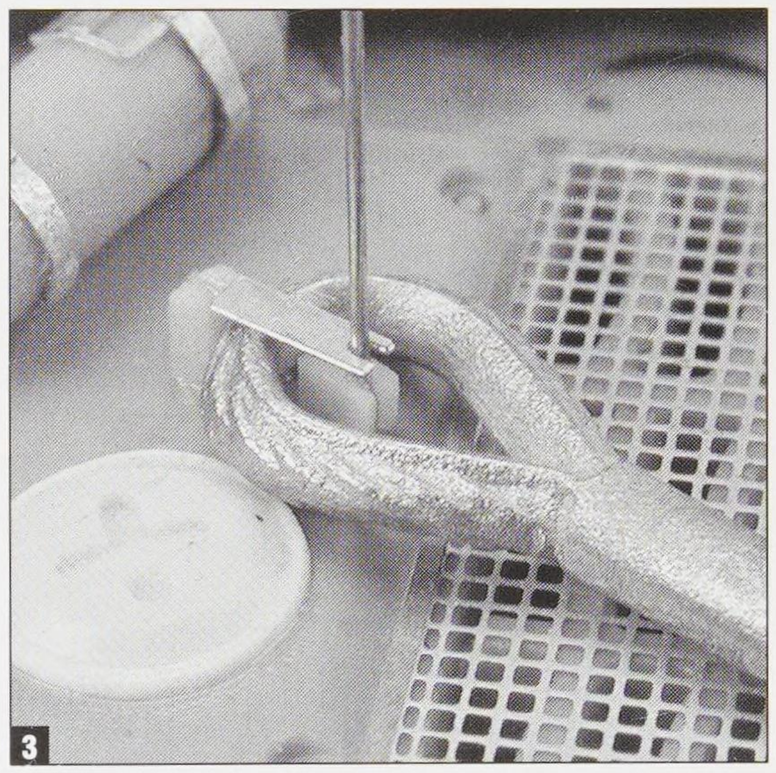
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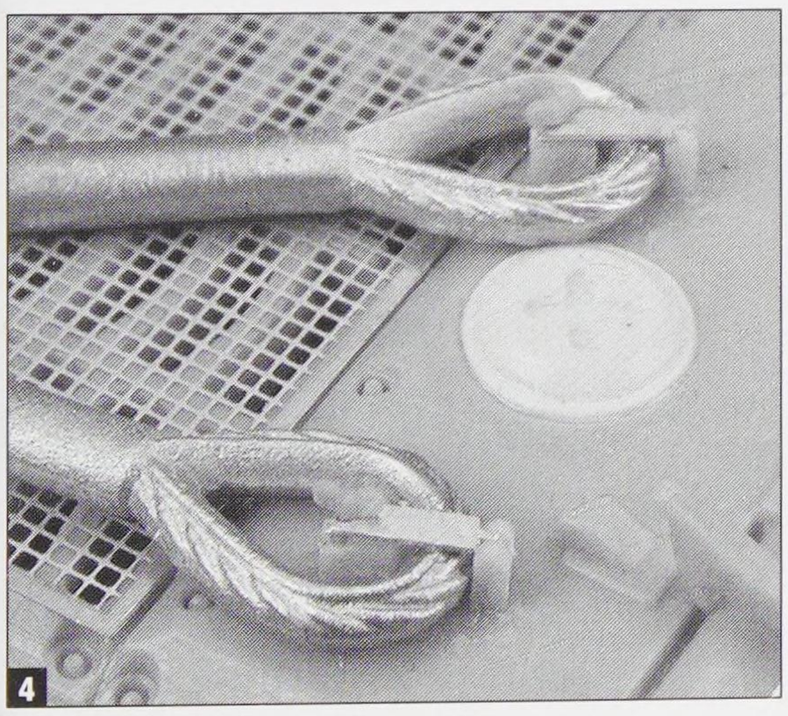
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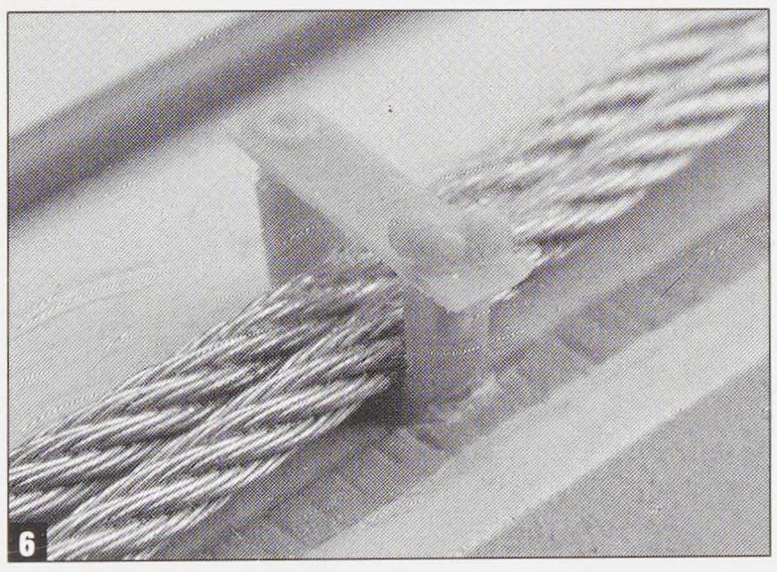
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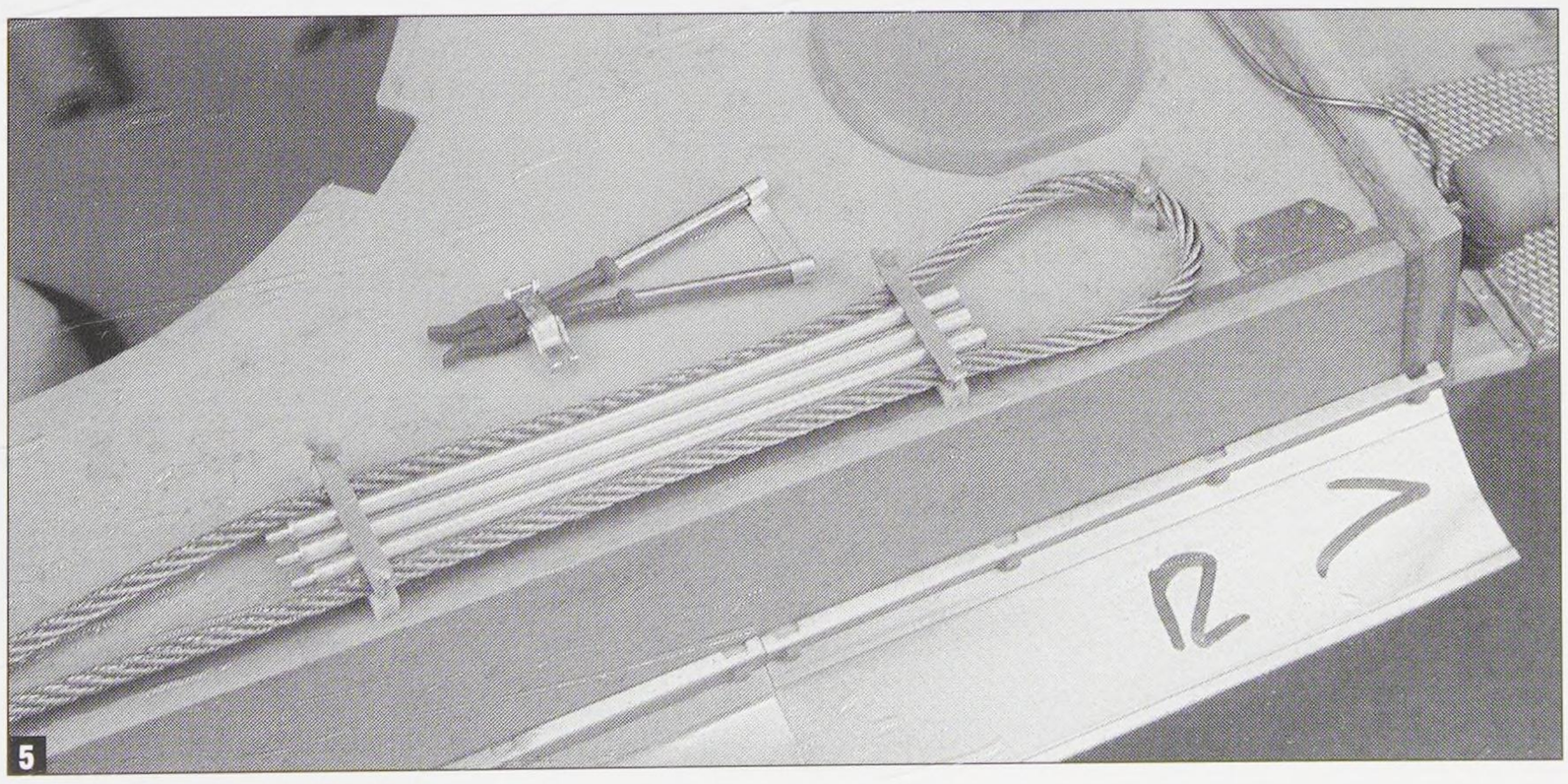
resin/brass tool brackets contained in their set number 158. These brackets actually contain a mixture of superbly cast resin parts and photo-etch pieces. Photo-etch wing nuts are also provided, but I decided on Grandt Line wing nuts. I used a different method to install the wing nuts and it is described here. The brackets for the tow cables are composed of a resin hinge base, a flap and a resin wing nut

So... what I cooked up was a premise based on photos of a single tank, number 713 of the 10th Panzer Division. It's an early production tank with all the early attributes, repainted in a darker color and renumbered with the prominent red and white tactical numbers. For reasons outlined in the color section, I chose tactical number 712, which makes this model somewhat of a compilation.

Like the previous kit, this is another of several models to utilize the excellent Royal Models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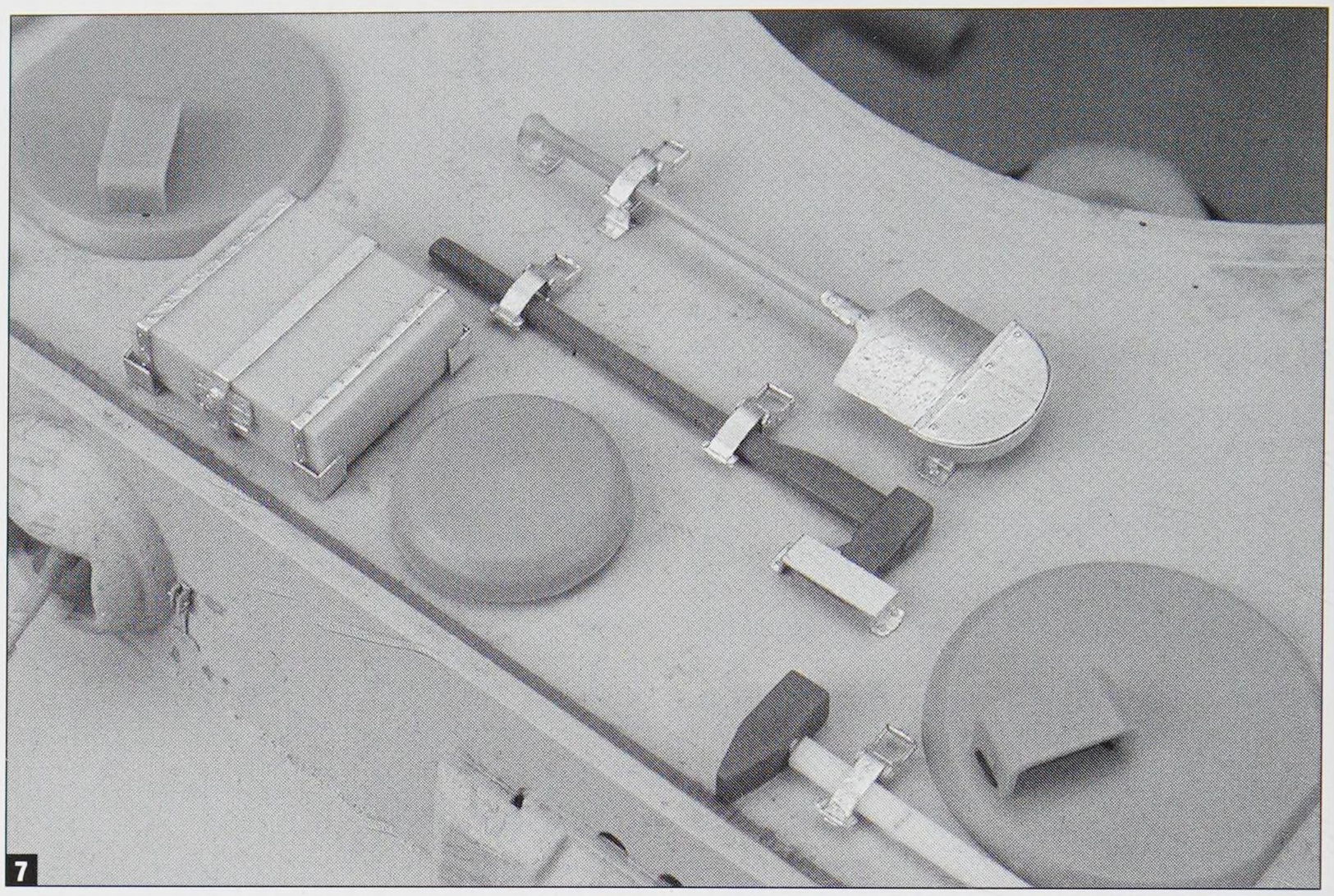
bracket. On the real tank, the shaft of the wing nut was hinged and threaded. The shaft would rotate to meet a notch in the bracket.

On this model, I located the tow cable and heads first, then installed the back piece and the flap (**photo 1**). The resin part for the wing nut shaft was then mated with a short section of thin brass rod (**photo 2**). This made the part much easier to handle and allowed it to be placed very precisely (**photo 3**—also note the fire extinguisher in this shot). The brass rod was then snipped off with a sharp pair of Tamiya flush cut nippers. The final touch was the addition of the Grandt Line wing nuts directly on top of the trimmed rod. The results can be seen in **photo 4**.

As mentioned, the tow cables were installed backwards on these early vehicles. I used the excellent braided cable and white metal heads from New Connection. This cable is quite stiff, but I managed to carefully bend it into place. This was especially difficult on the left side of the tank because these early vehicles had only two gun cleaning rods installed on that side. This means the bracket is shorter and therefore the cable needs to make a much narrower curve. I was a little nervous, but it worked. The finished right side bracket is seen in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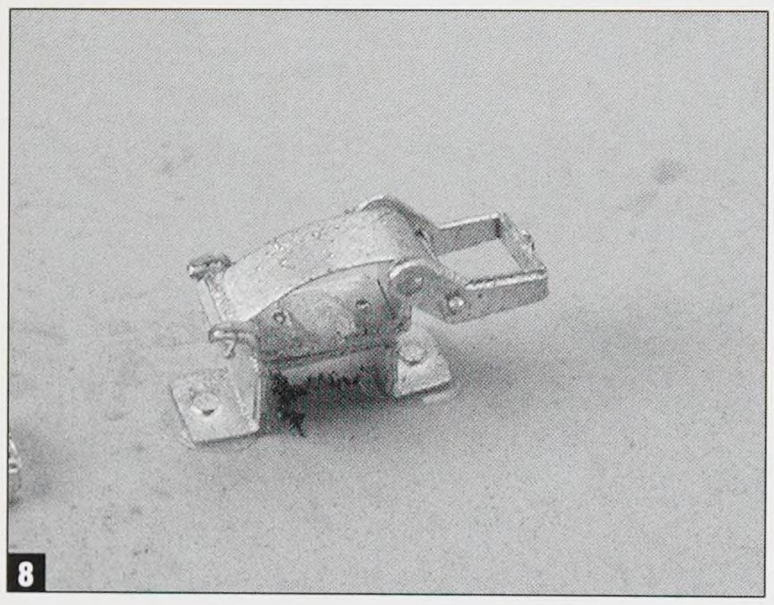
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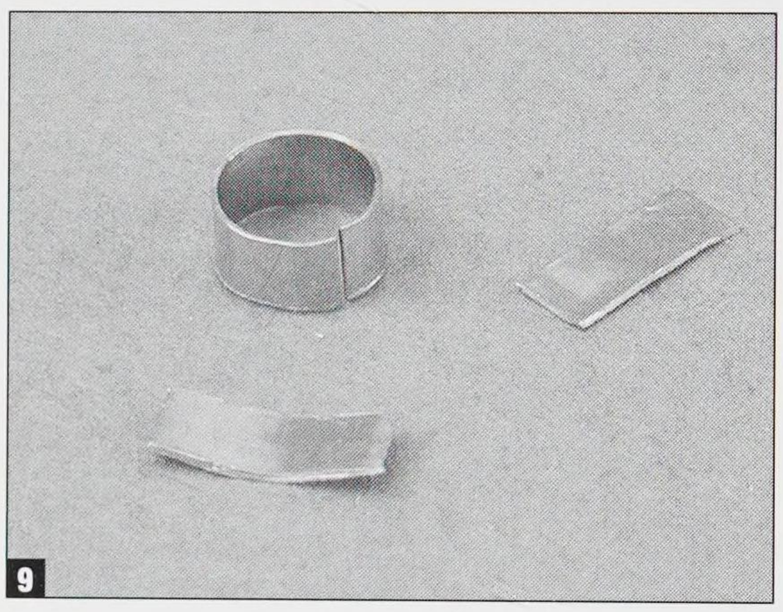
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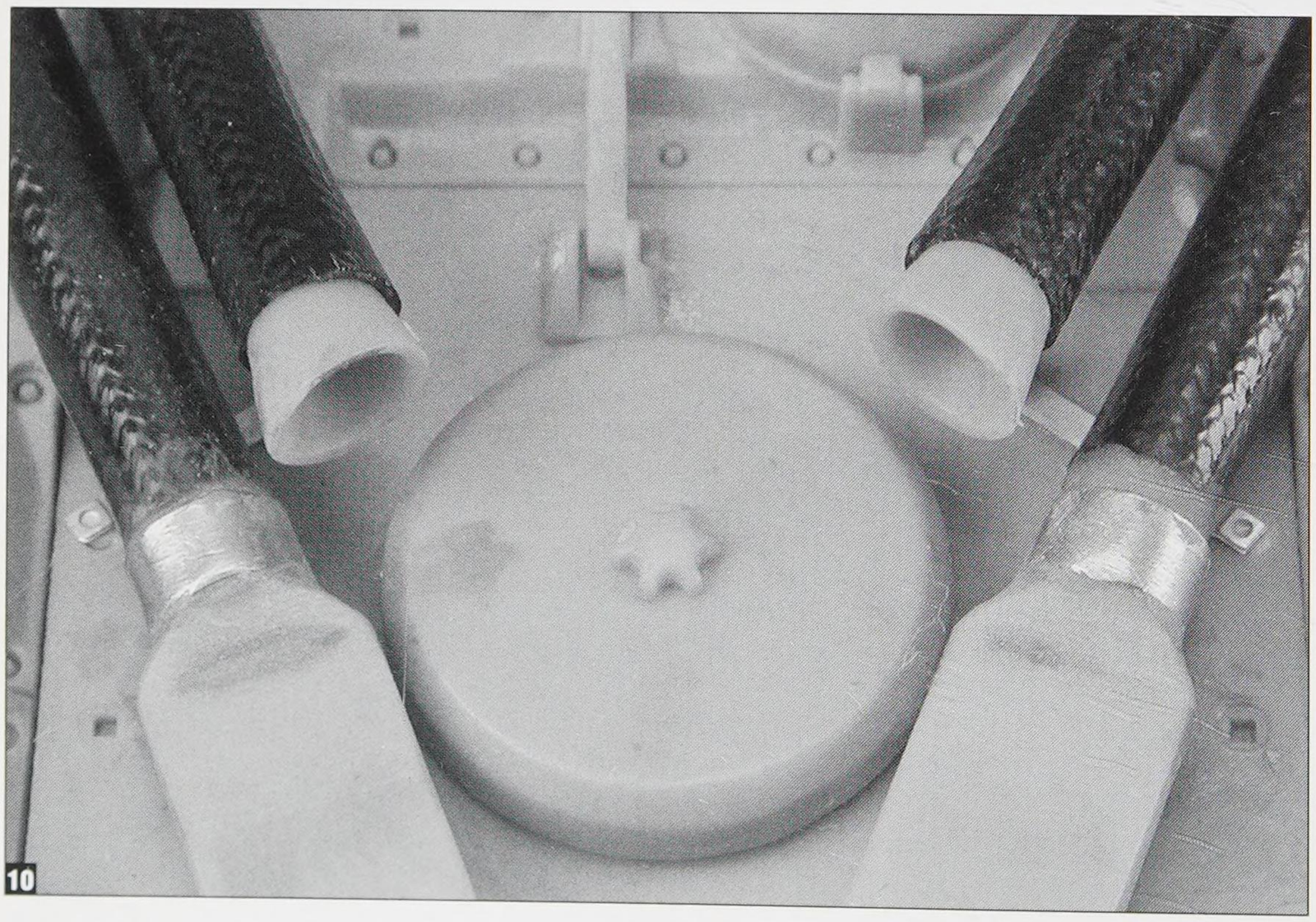
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photo 5. This shot also shows the brackets, which are also Royal items (described in greater detail in the next section). The gun cleaning rods are from Elefant. It shows a few other details to good advantage, like the weld bead, the hull texture and that awesome double braided New Connection cable. This photo also gives the first glimpse of the Aber fenders (more on these later).

The backward arrangement of the cables used the same hardware as the later arrangement, except for a single clamp located about mid-hull. I took this from the ModelKasten set for the StuG and used a Grandt Line wing nut. This is seen in **photo 6**.

The very first complete on-board tool arrangement used on the Tiger was seen on the early Tunisian vehicles and it is depicted on the model in **photo** 7. Even though I go on and on about the tools in a later section, I couldn't help throwing in a shot of the completed Aber clasps. They're just so cool (**photo 8**).

The Tamiya Feifel air cleaners are pretty accurate as they come out of the box. The only problem with them is that the main hose should fit into the hull housing and not around it. The real hose terminated in a metal collar that slid into the hull housing. I made a new collar from thick lead foil, then feathered it into the hull housing with putty (**photos 9 & 10**). I also made some attempt to represent the metal collar on the hoses. This, incidentally, is where the clamps attached that fasten the hose to the housing. The bases for the guide brackets seen in photo 10 are from Royal. In **photo 11**, the tops of the brackets have been installed. The bracket posts are brass rods. I drilled right through the lower bracket into the hull to make the whole assembly stronger. They are capped with Grandt Line hex nuts. The hose housing is looking pretty messy here, as I have been priming it with black paint to reveal any flaws. **Photo 12** is another perspective of the finished brackets. One of Aber's super mini clamps can be seen here, as well. One of these is installed on either side of each hose.

The Feifel air cleaner cans were mounted on the rear hull using bolted brackets. These are part of the Royal set and although they are a trick to bend, the results are commendable. Grandt Line, again, was the source of the bolts. Another detail picked up by the Royal boys is the distinct pattern seen on the top of the cans. Tamiya's are butt smooth, so these photo-etched parts were added (**photo 13**).

This was also the first of several models to receive a complete set of Aber fenders. If I was (or you were) completely insane, I could have actually installed the fenders with Grandt Line bolts and ModelKasten bolts (supplied in their Tiger I wheel set). Fortunately, that affliction hasn't quite set in, so I opted for a less stressful method. This entailed installing the folded brass fenders right to the hull, using thick styrene strip as a mount.

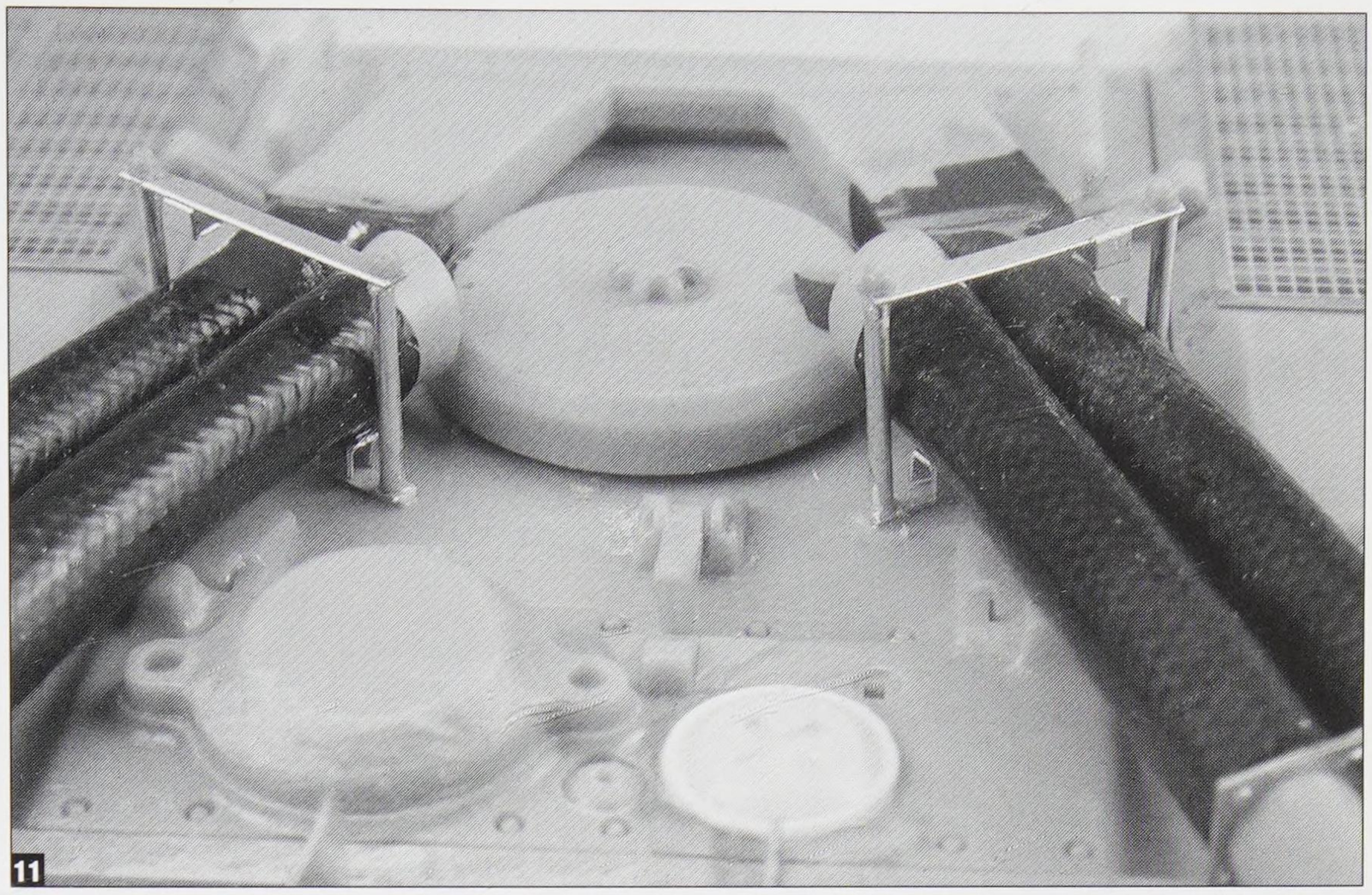
The very early style fender installation featured a pronounced dip in the center of the run. To

lay this out, I marked the distance from the top of the rear fender frame against the top of the hull, then scribed a line towards the front (**photo 14**). I then sort of guessed the front edge measurement and scribed a shallow line to intersect with the first one. The dip shown in **photo 15** was a bit too deep for me. I later moved the central apex up about an eighth of an inch, or equal to the slant of the hull.

The rear fender panels are unique to North African vehicles. The Aber parts are shown in **photo 16**. I marked them left and right to keep from mixing them up. After bending them to shape, I used a small piece of flexible solder to help hold the narrow fender edge together (**photo 17**).

Yet another unique sheet metal fixture on these tanks is the exhaust shield. I chose the Aber parts (again) because I liked the way the cooling flaps could be embossed into position with a pen. They don't quite fit the Tamiya kit and require some minor trimming on either side to improve the fit. The areas cut are marked with arrows in **photo 18**.

These parts are actually installed inside the prominent bolts of the armored exhaust covers. I ran a razor saw along their inner edge to give me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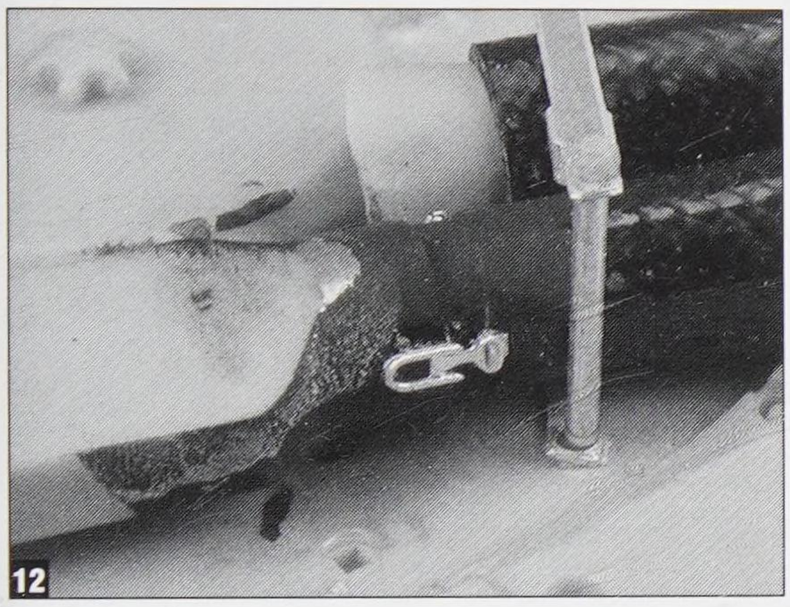
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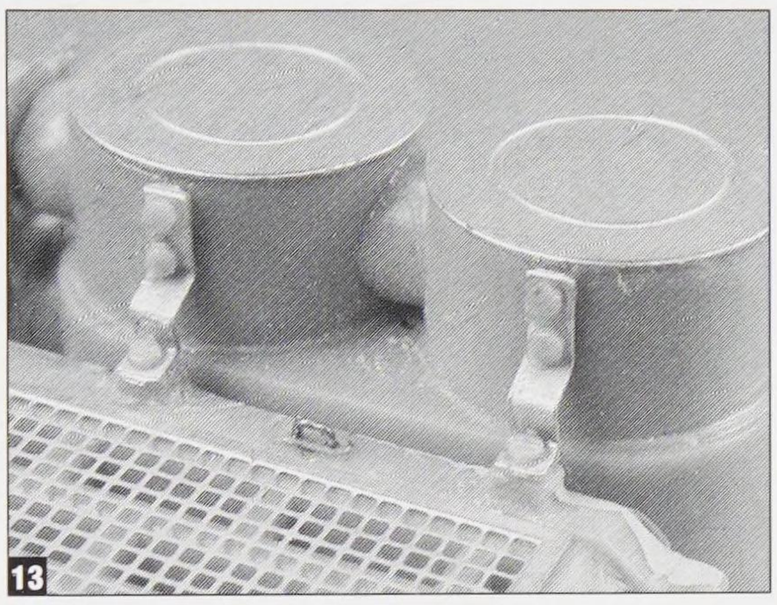
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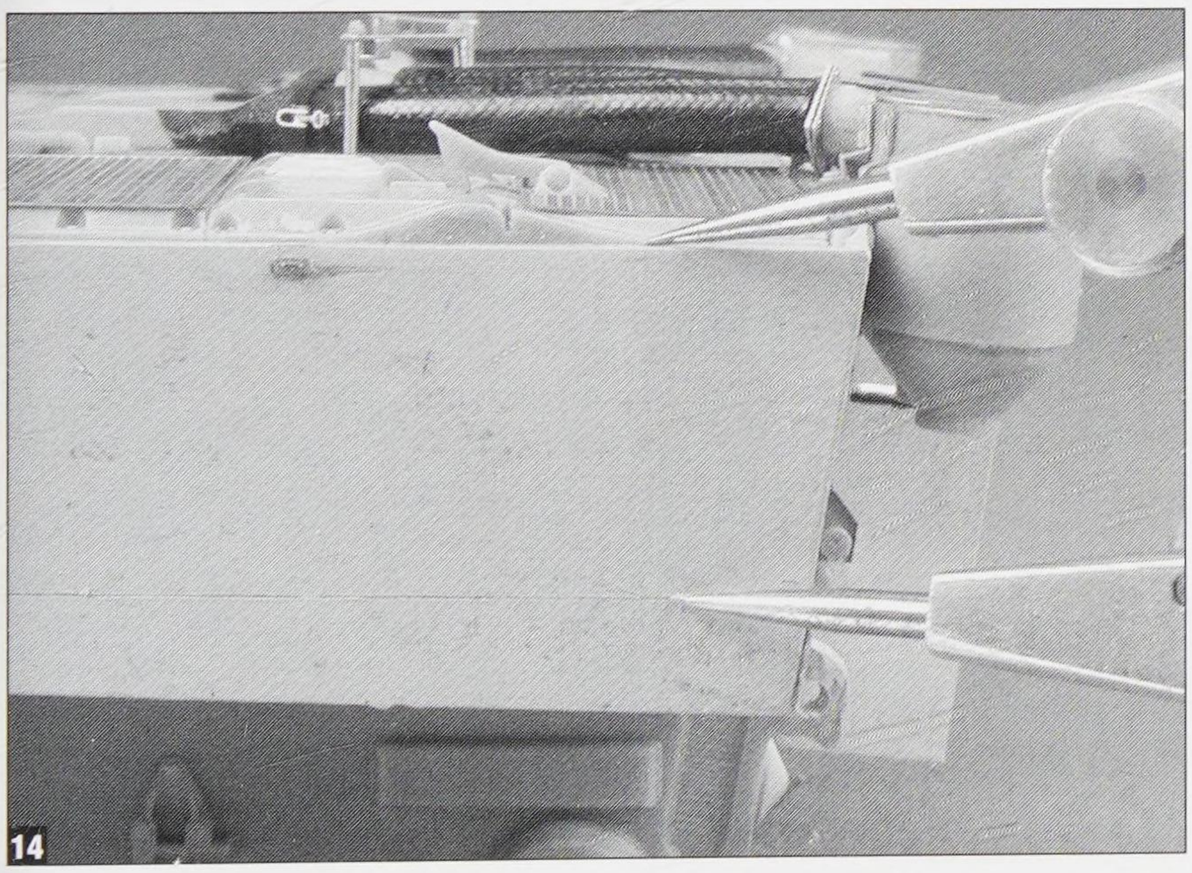
The jack mounting brackets are another photo-etch and resin miracle from Royal. Additional photos of its construction will be seen throughout the remainder of the Tiger I section. The construction of the jack can be seen in the tool detailing section. The chain on the back of the Feifel can is from the Royal set. In retrospect, it looks a bit on the sucky side.

To mount the lowered headlights, Aber provides several parts in its Tunisian Tiger fender set. There are four parts in each mount and these and the completed subassembly are shown in **photo 25**. The parts are mounted directly behind the front fenders. **Photo 26** gives the 1/35th scale view. The completed Aber hinge is also visible here. These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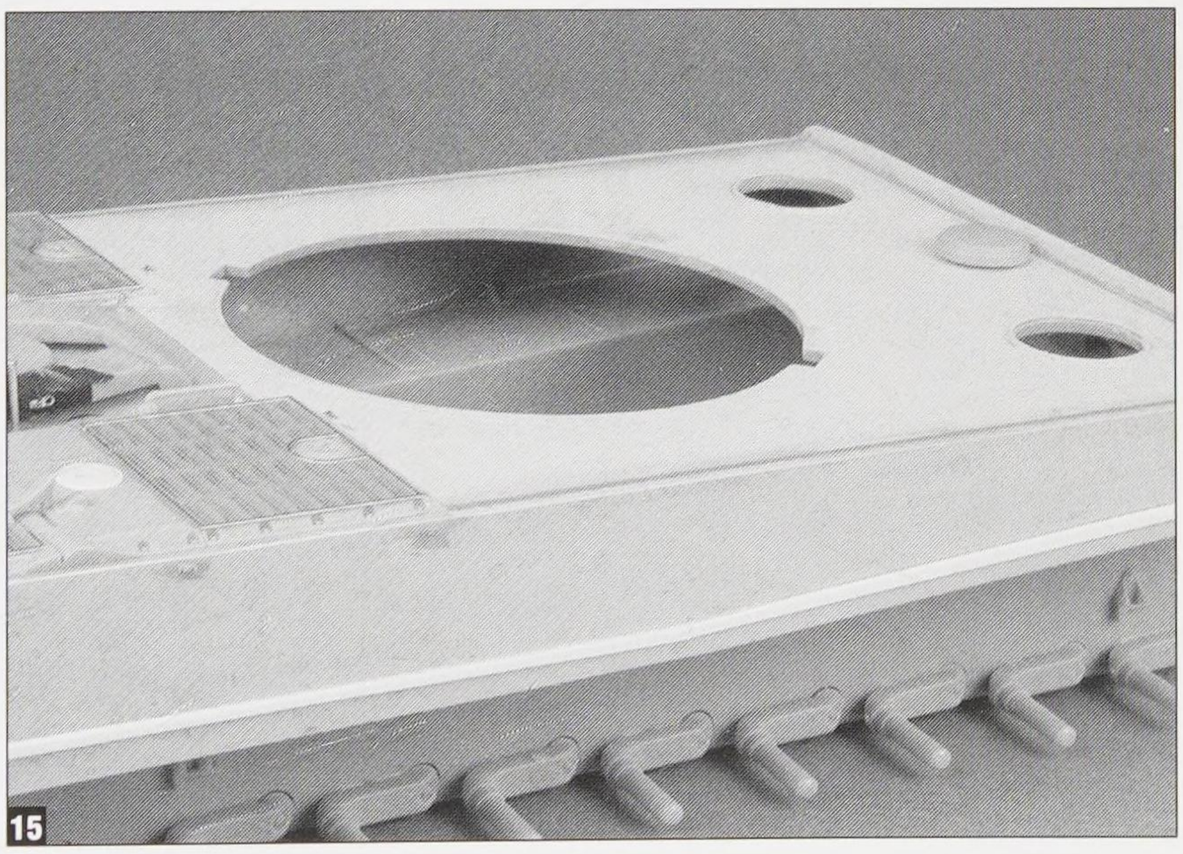
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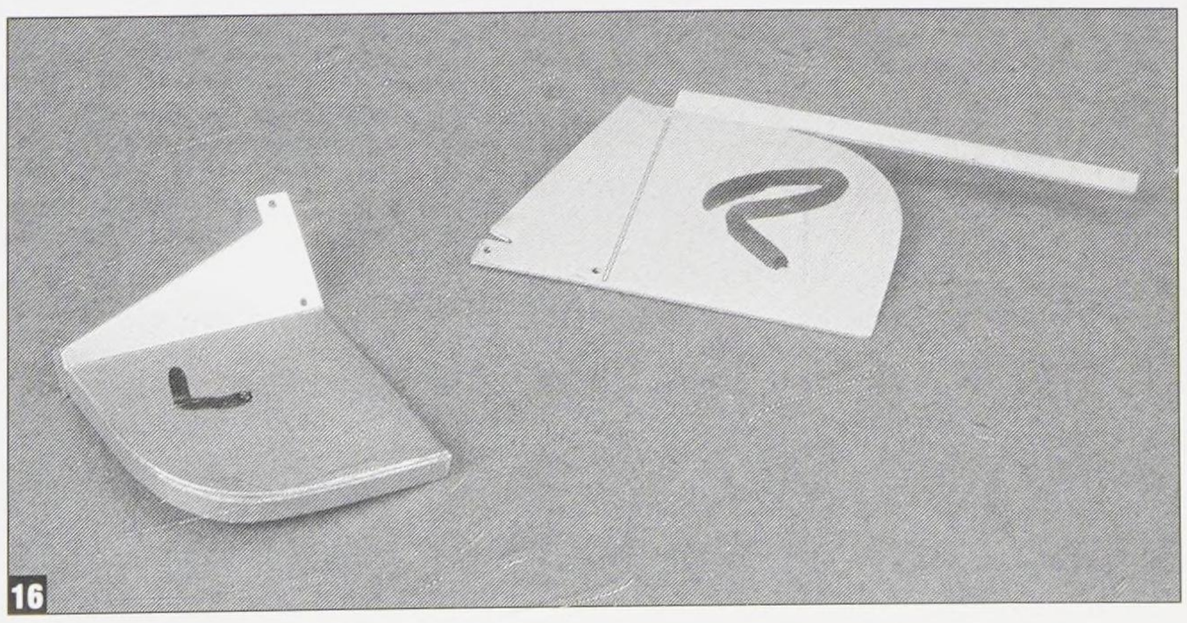
some room to install the brass part. The outside edge of the installation is shown in **photo 19**. This shot also shows one of the attachment bolts located below the lifting lug. The dark colored paint seen around the cooling flaps is black paint. This was used to paint the inside of the part prior to installation. There's no way to get to this later. **Photo 20** shows the inside attachment point.

Many of the early 1st Company 501 vehicles had metal bar stock welded to the lower edge of the rear hull to mount spare track links. I used brass stock for this and made weld beads from red putty (**photo 21**).

Tamiya provides a rendition of the first pattern track toolbox and it's not bad. I simply added a back panel and two of the super mini clamps and that was that (**photo 22**). This is very simply mounted on the left rear of the hull using two bent bars. These were formed from the same stock as the track link holders and are seen in **photo 23**.

Photo 24 shows the finished jack, Feifel and rear fender assemblies.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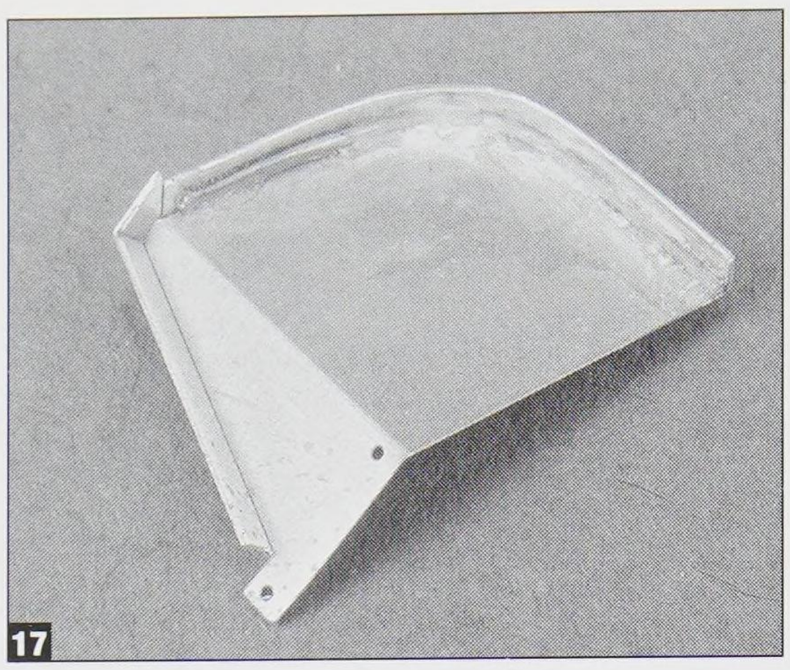
things are crazy to put together, but man, check out the results. The Bosch lights were detailed like all the others and mounted on the finished brackets. A length of copper wire runs from the light back to its terminal (**photo 27**).

Among the smallest brass parts I have ever successfully used on a model are the fording cover nuts on either side of the front MG mount. They are so small that it took me over an hour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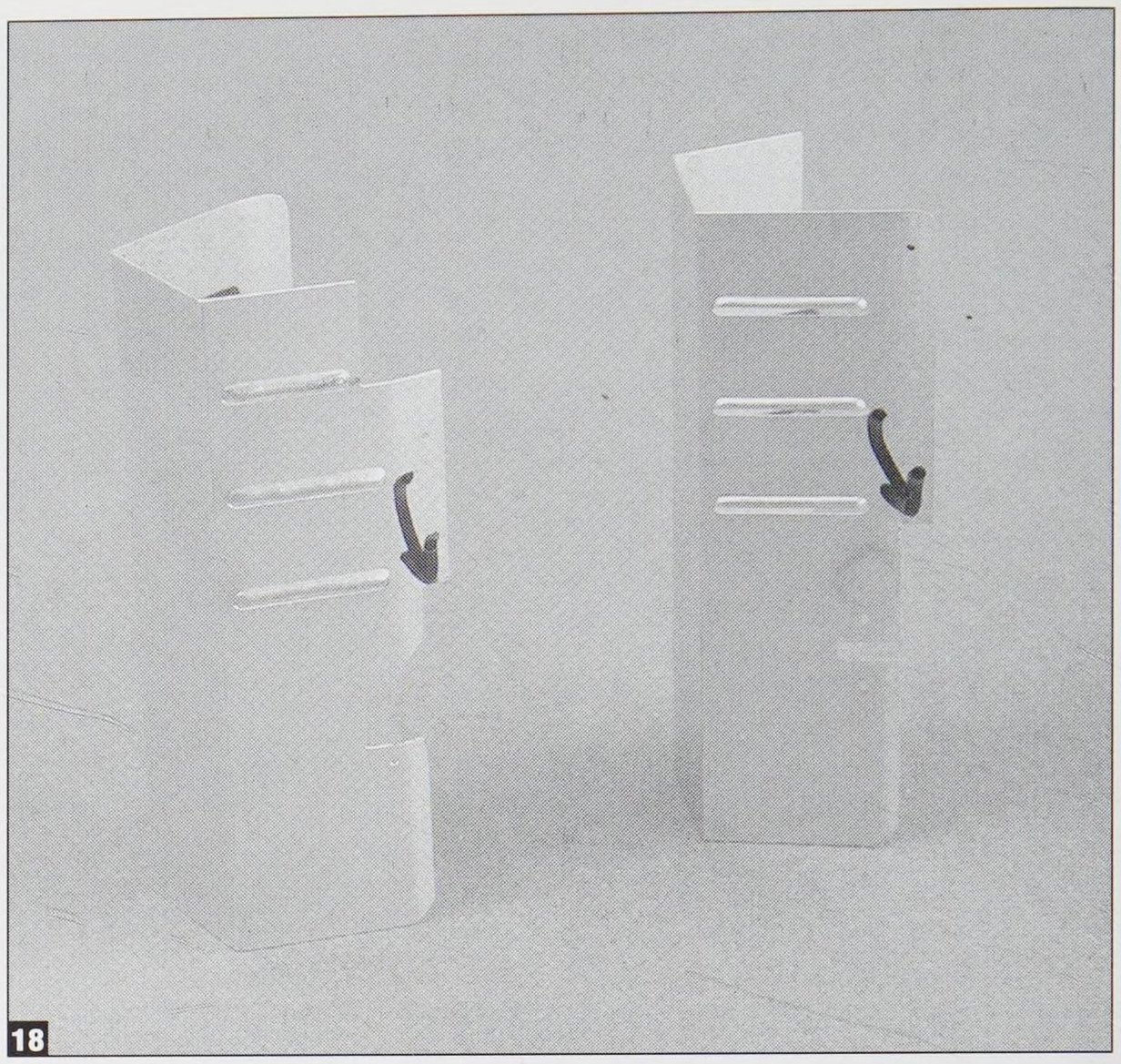
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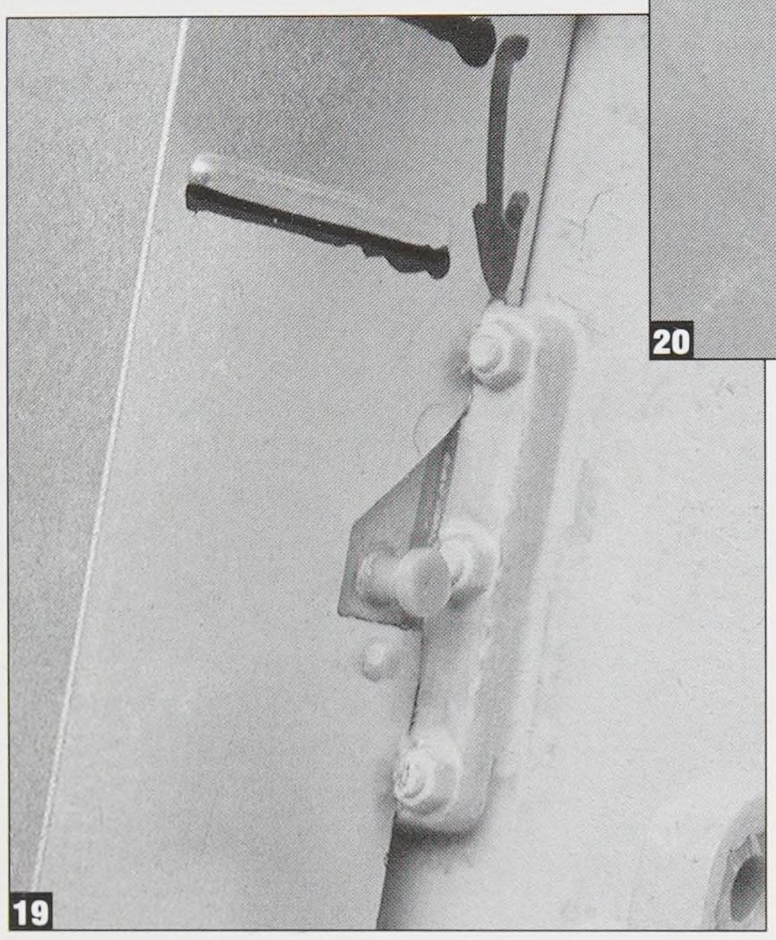
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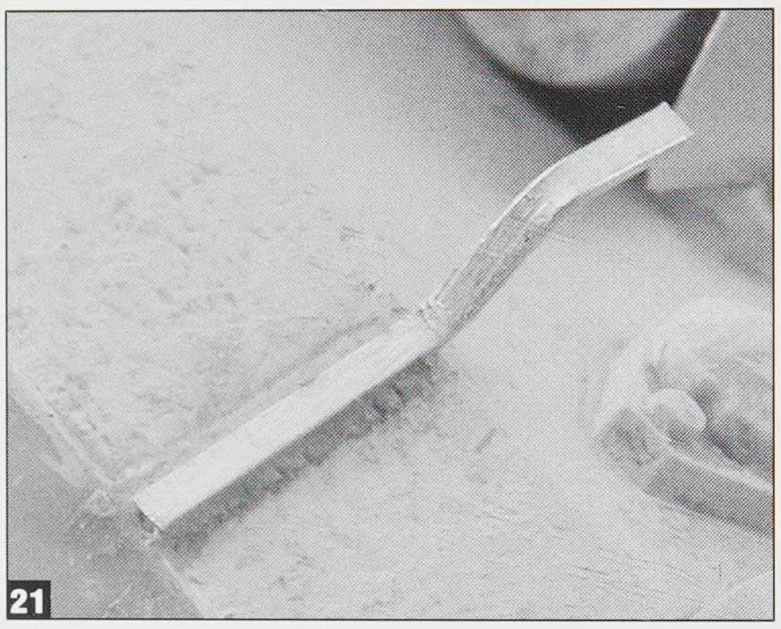
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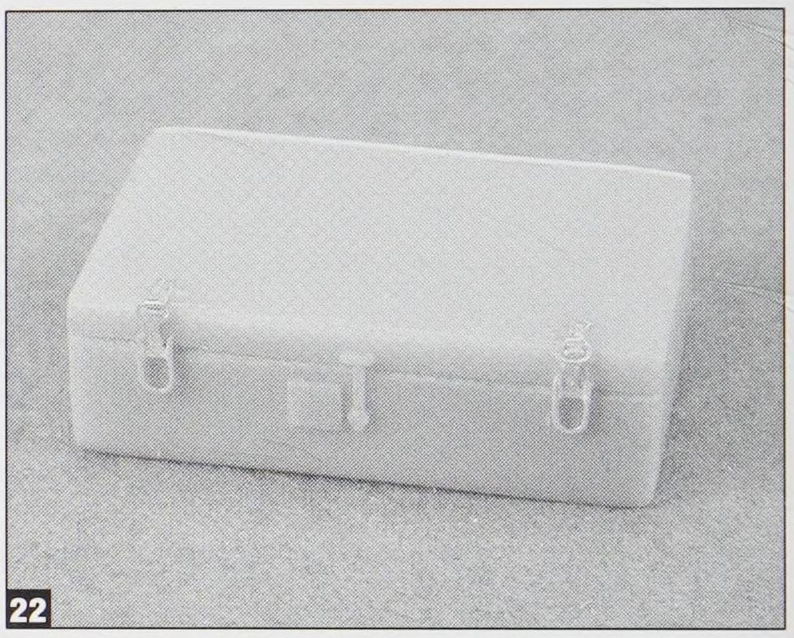
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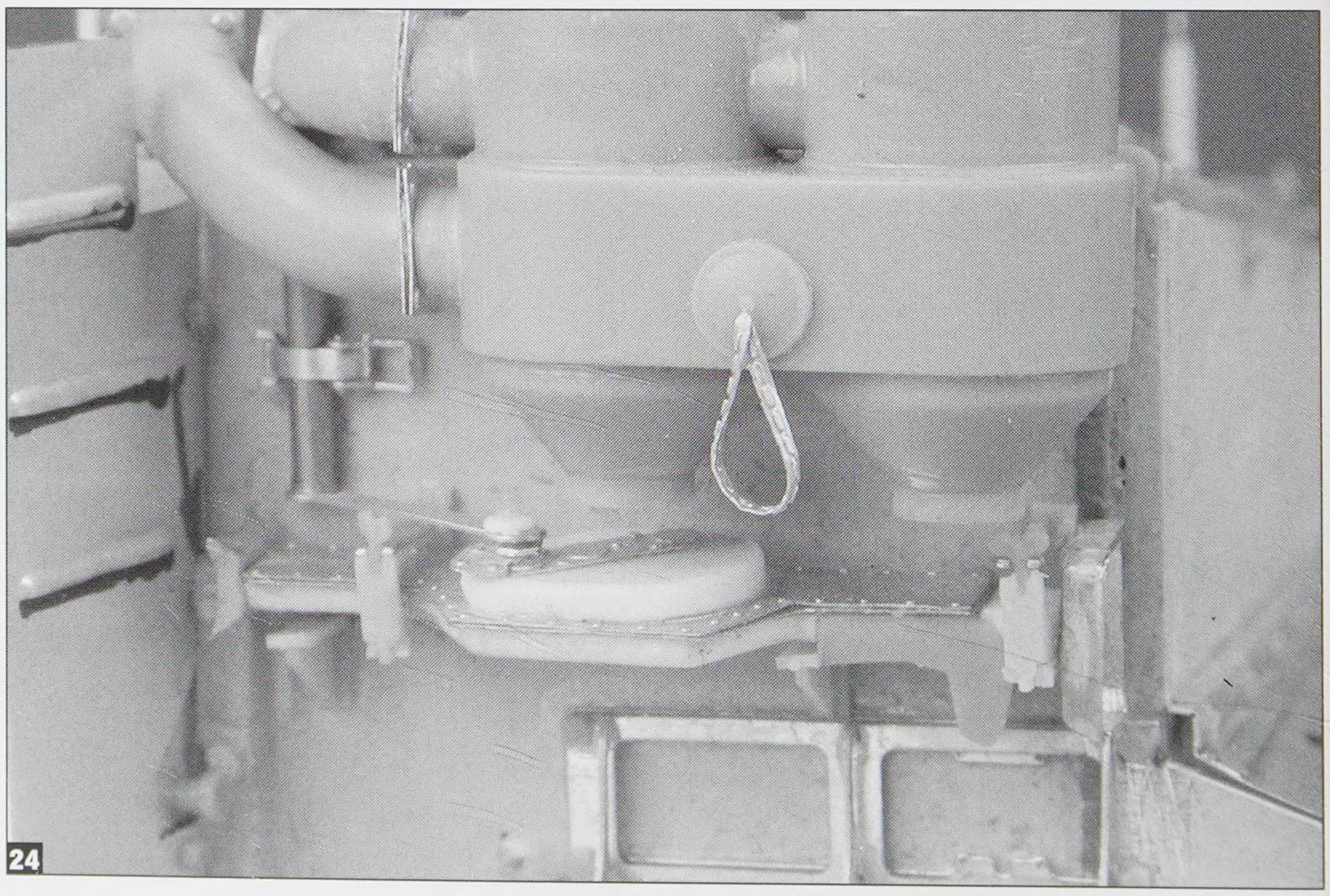
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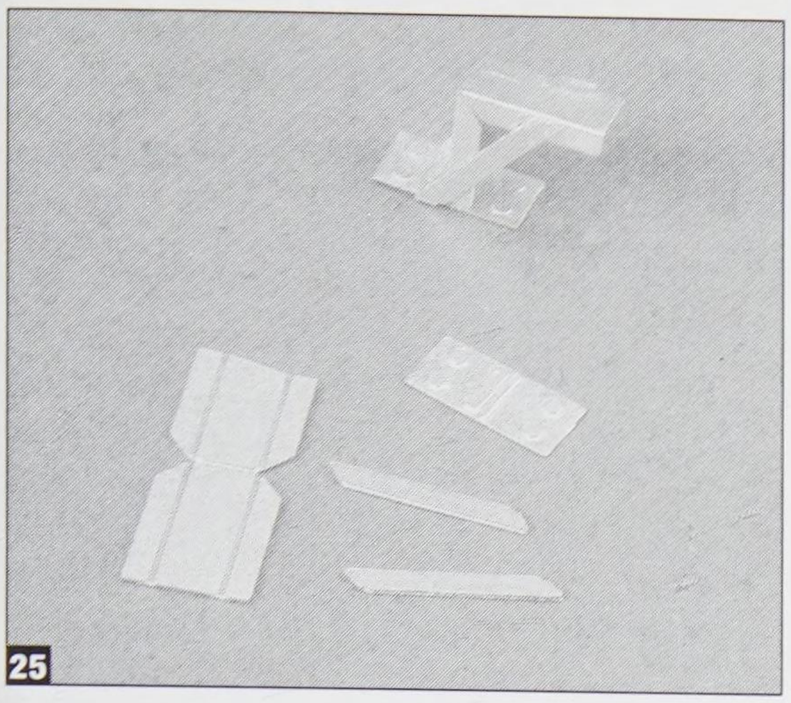
to get them properly positioned in their mounts. The results are great (**photo 28**), but I used another, faster method on later tanks.

Another first here was the use of the Royal track cable brackets. I go into their use in depth in the following section, but **photo 29** provides an early peek.

Tamiya represents the turret MG as a simple tube. On the real tank, the barrel end of an MG 34 protruded. I didn't catch this detail until after many of the kits were complete, but here is how I fixed it. First, the molded-on tube was carefully drilled out using a similarly sized bit (**photo 30**). The end of a spare MG 34 (**photo 31**) was then carefully inserted from behind (**photo 32**). The results are pretty pleasing. As I said, this detail wasn't noticed until late in the project and I can tell you that it's a lot easier to do before the mantlet is installed!

I had originally intended to replace the clasps on Tamiya's early rear turret stowage box. However, like the track toolbox, this part was rendered very well. **Photo 33** shows the clasp. I left it as is, but about the only thing to add would be a photo-etched pad lock.

The continuing saga of the turret smoke launchers is further illustrated in **photo 34**. The final chapter of this story is told in the next section, but for this assembly I used the Royal base and joined it with launcher tubes from the ModelKasten StuG set. They fit the Royal part perfectly and have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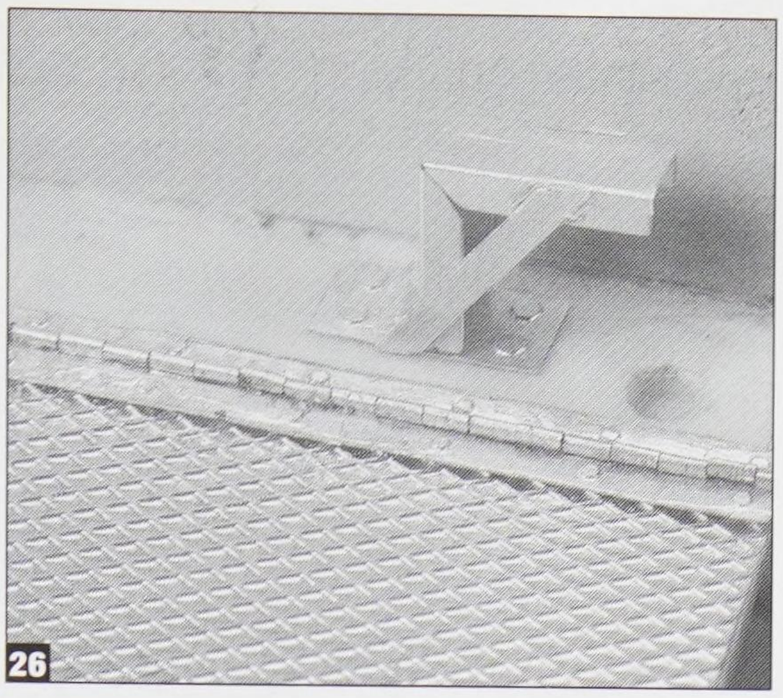
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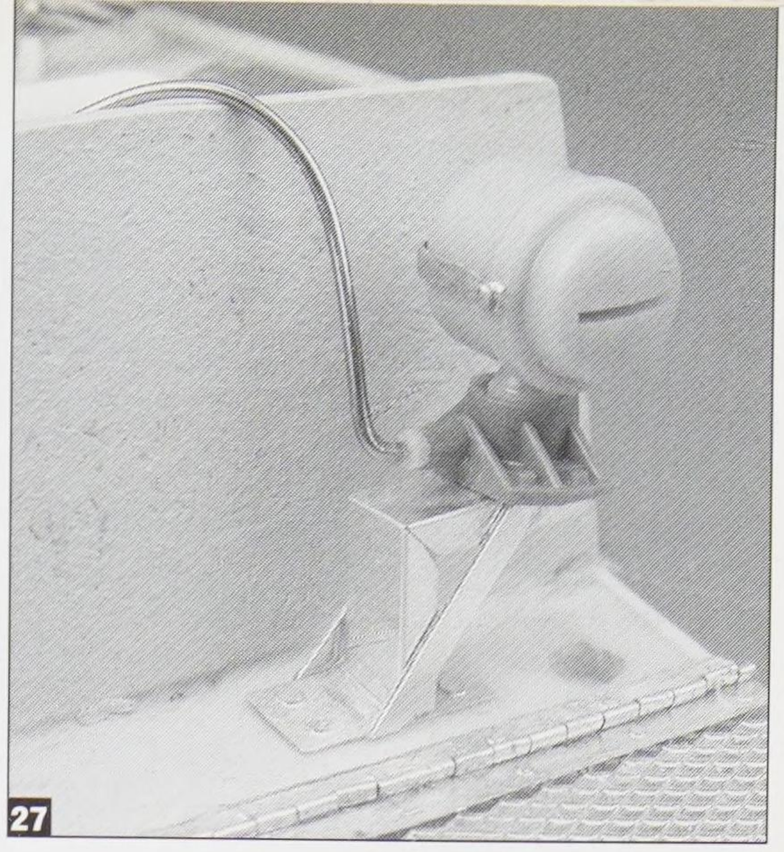
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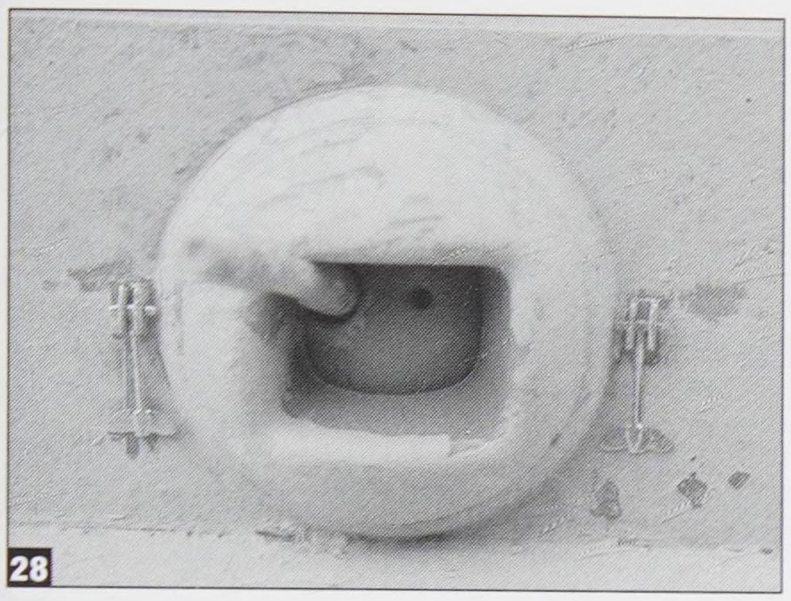
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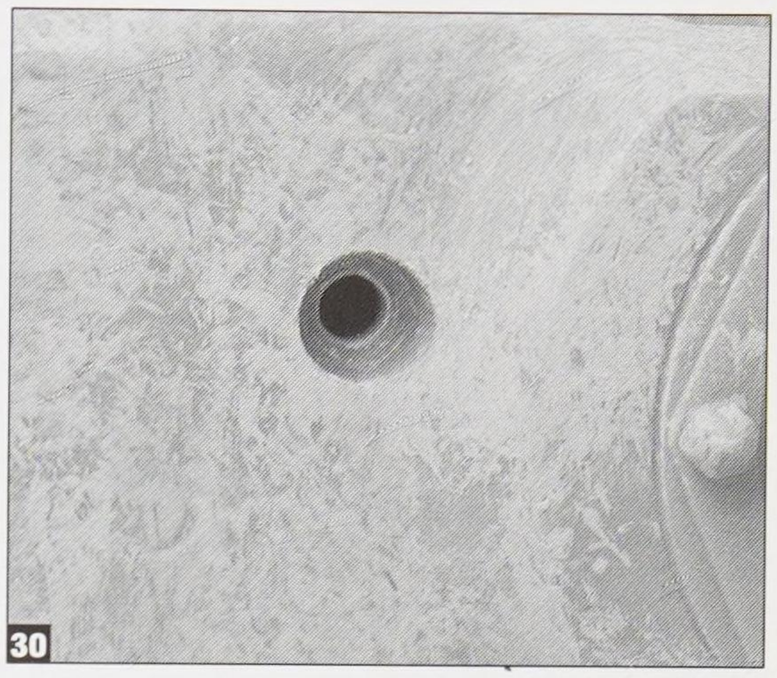
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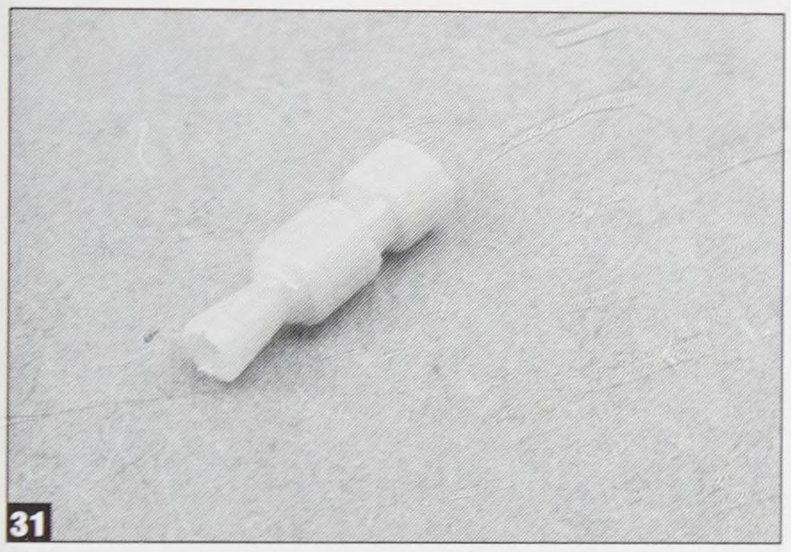
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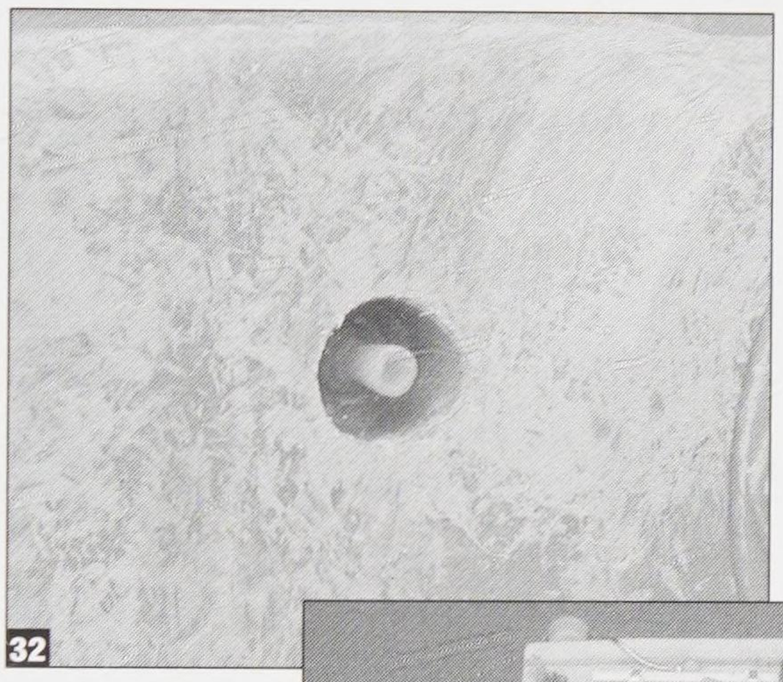
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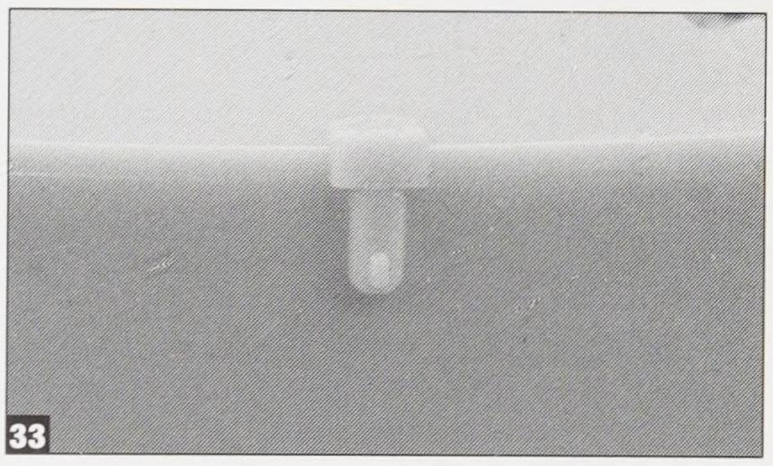
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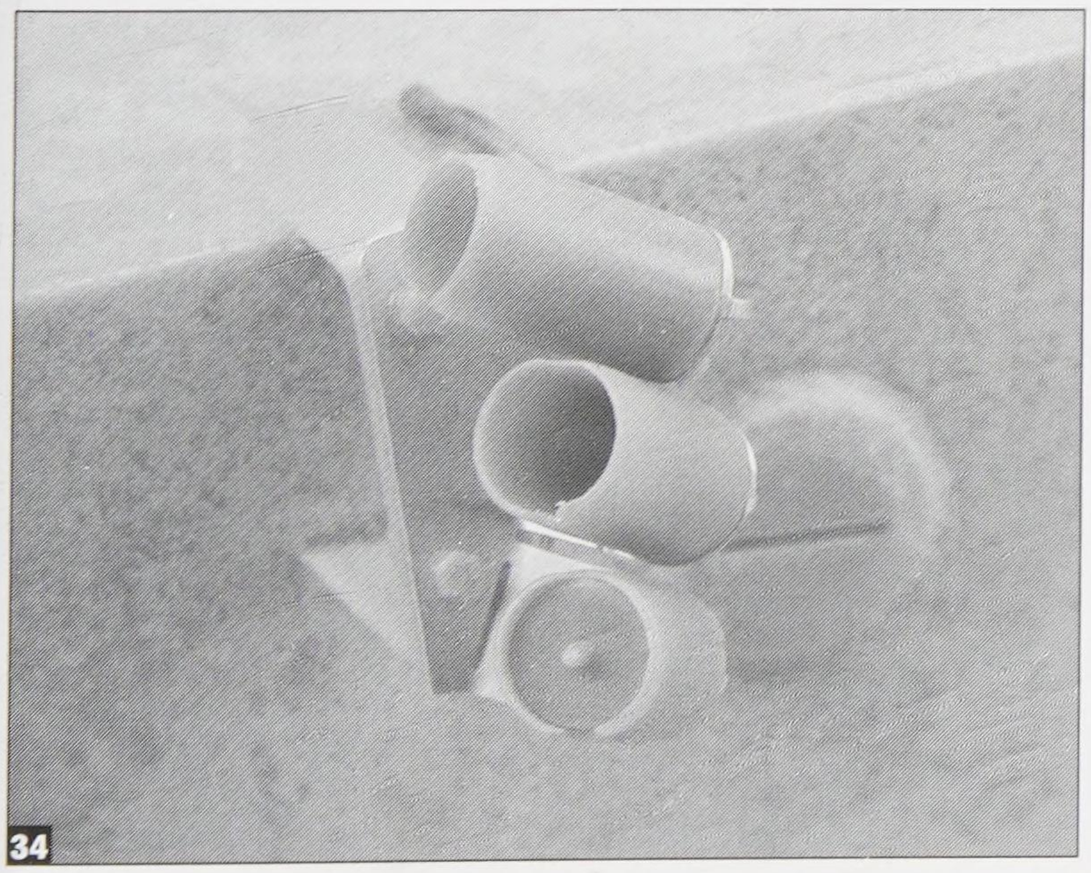
closed ends (as opposed to the open ends of the Elephant items). They take much less glue to attach to the base. The set also includes smoke grenades in the form of caps that sit in the ends. Elephant provides full sized grenades that have to be cut to install, so this saves a step.

Photo 35 provides a final peek at the finished kit with the entire unique stowage and Feifel system in place. The roughed up fenders are also seen here (also see the lead photo). Photos of the tank in the field inspired this detail.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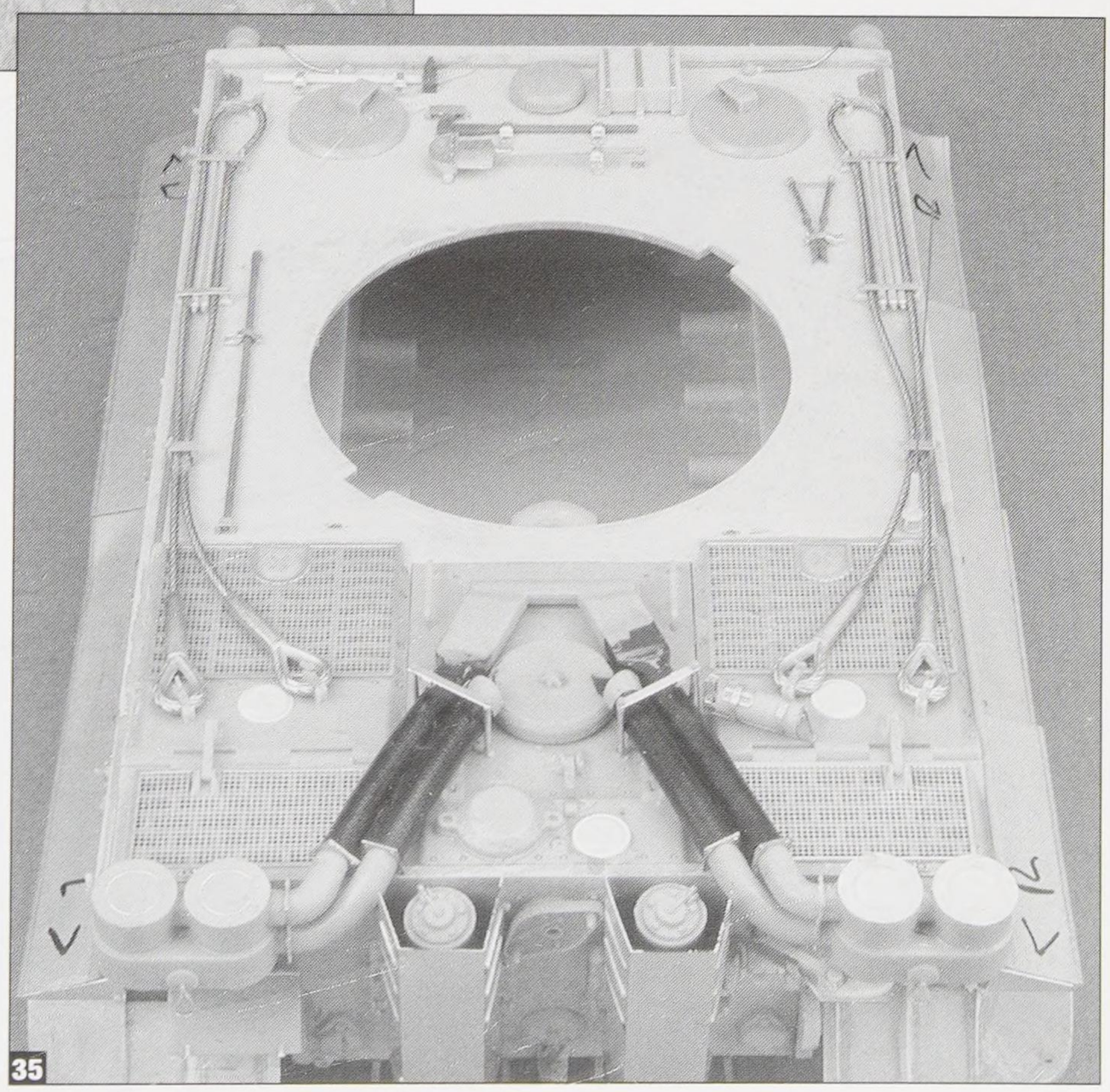
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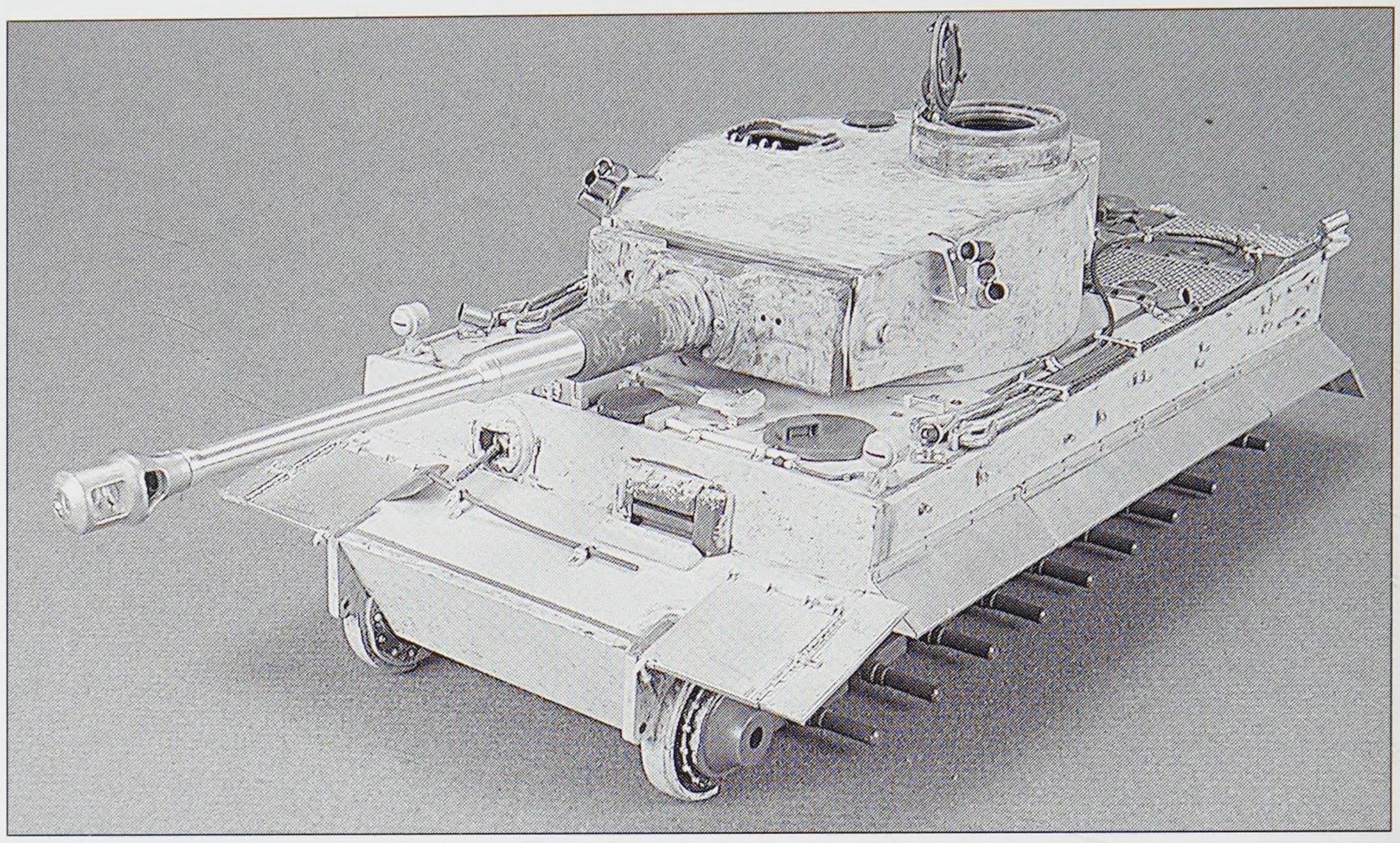
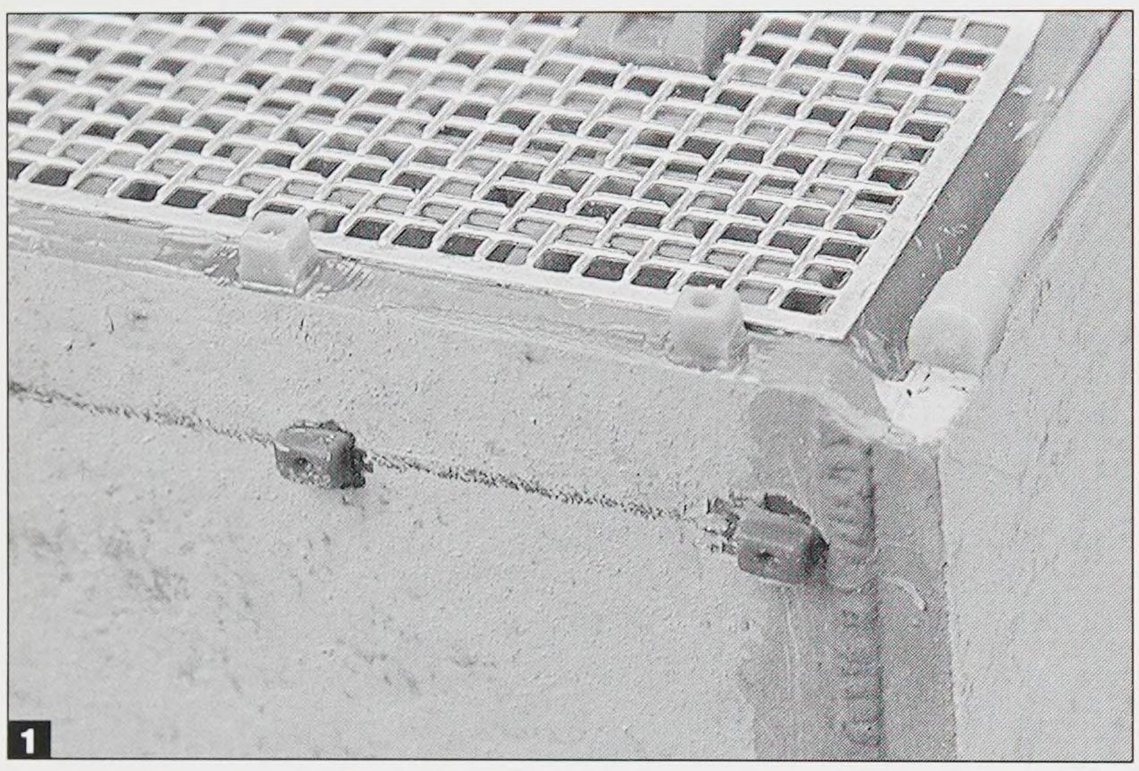
Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. 250116

This model is the one that graces the cover of this book and because of it's prominent visual position, it was given quite a bit of attention. I also completed it out of sequence, so that the cover could be used for promotional purposes. This means I did quite a bit of the work that is seen on the other models for the first time here. Consequently, I skip around a bit in the text.

To render an SS Kursk vehicle, I searched high and low for what I considered to be a typical tank of that period serving with the SS. I finally opted for a somewhat well-known vehicle, tactical number S33 from "Das Reich." This vehicle has been a popular subject for modelers for some time and it's also offered as a scheme in Tamiya's Tiger kit 35216. During my research, I discovered that many of the models I have seen are actually incorrect. I delve more into the history, camo and markings of this vehicle in the color section, but almost all of the details seen on the model were derived from three or four photos. I'll cover these details one by one.

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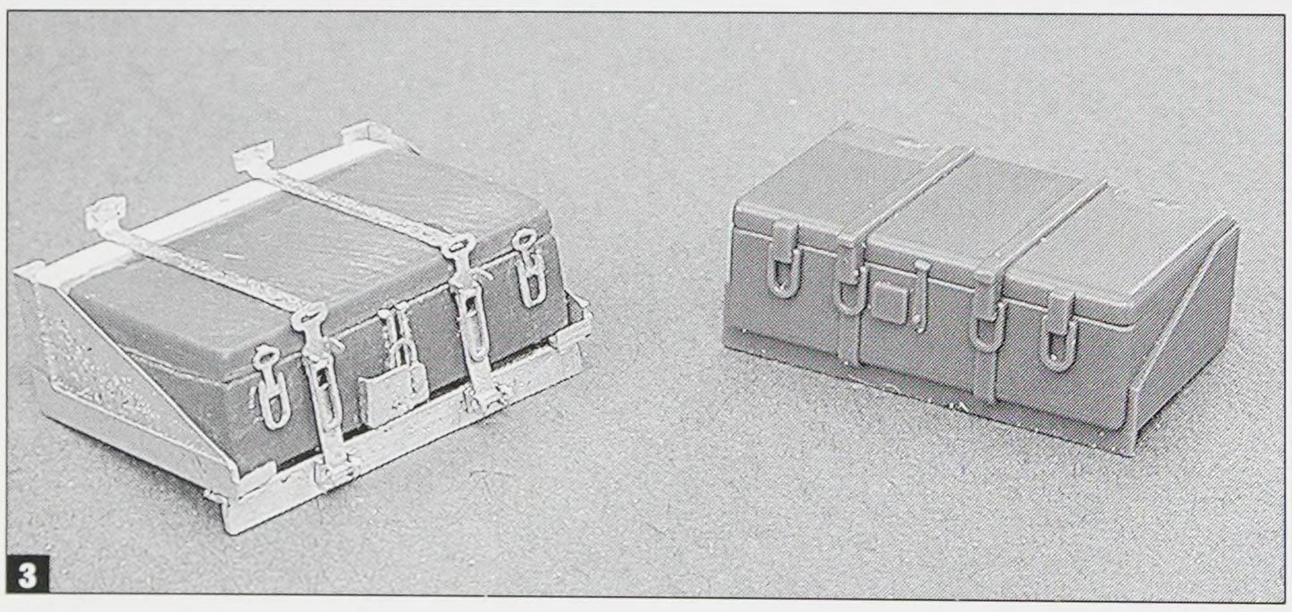
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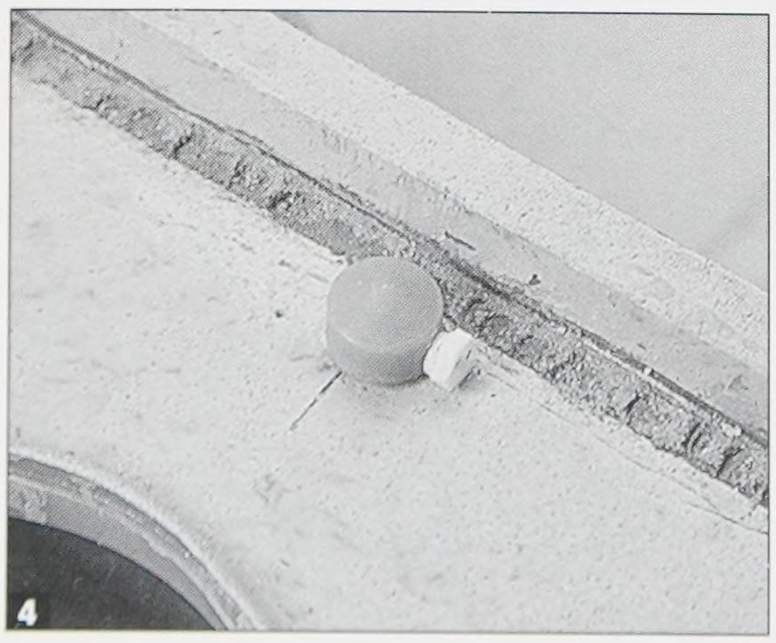
Hull gear and other tales

This tank represents a sort of interim stage in the development of the Tiger. It is a somewhat earlier vehicle, but it has many of the features seen on later tanks. For instance, it had all the connections for Feifel gear, but none of the actual gear was installed. The kit used here is the Tamiya "Frühe Produktion," kit number 35216. This kit provides a number of extra parts to create an earlier Tiger. The model comes set up for the installation of Feifel gear. However, I removed all the attachment points in order to texture the hull (see general detailing section). These are shown re-installed in **photo 1**.

Casting numbers are generally not associated with German tanks, but depending on the part and who manufactured it, they could be found. One part that contained them is typically covered up, the rear armored exhaust covers. These are normally hidden with sheet metal shields, but this vehicle did not have them. I took numbers from (of all things) the Tamiya Type 97 kit. They were carefully scraped off a sprue tree with a #17 blade. These are shown in place in **photo 2**. The covers were given more texture than the rest of the kit, due to their cast nature. The lifting lugs from ModelKasten are also in place in this photo. Also note the very early starter crank panel located between the exhausts.

By this time of this tank's manufacture, it was issued with what would become the standard track toolbox. The Tamiya part was used, but it was heavily modified and detailed. I used brass parts from Royal and Aber. To make the box fit in the Royal base, it had to be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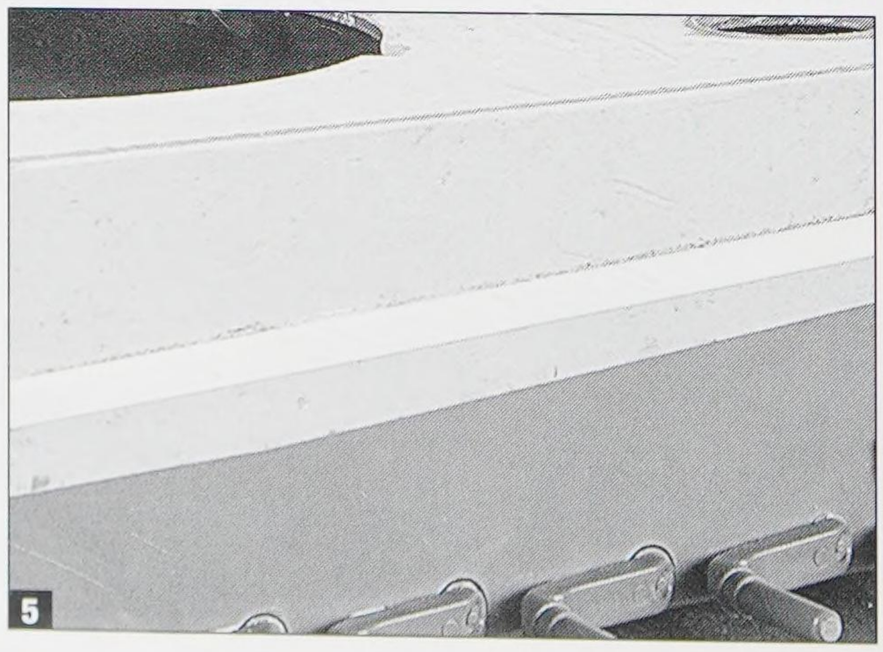
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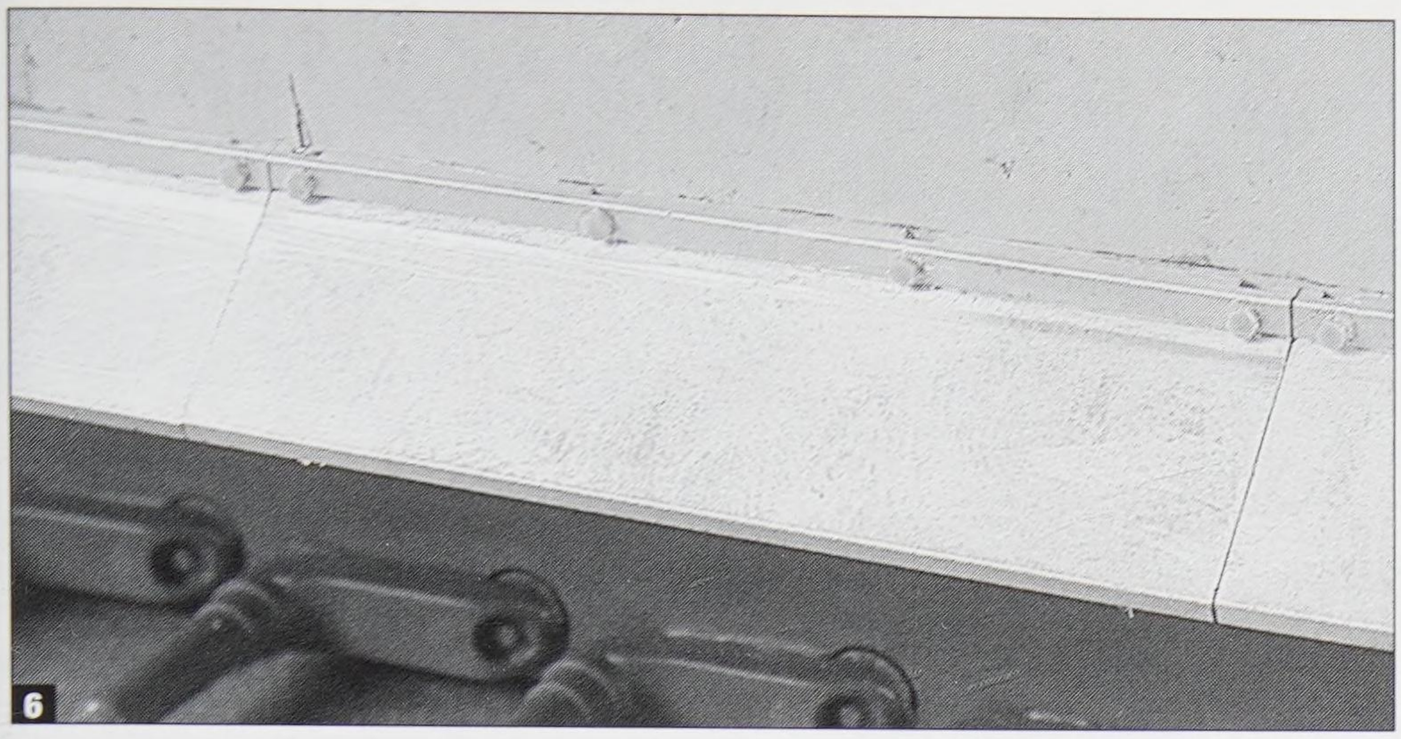
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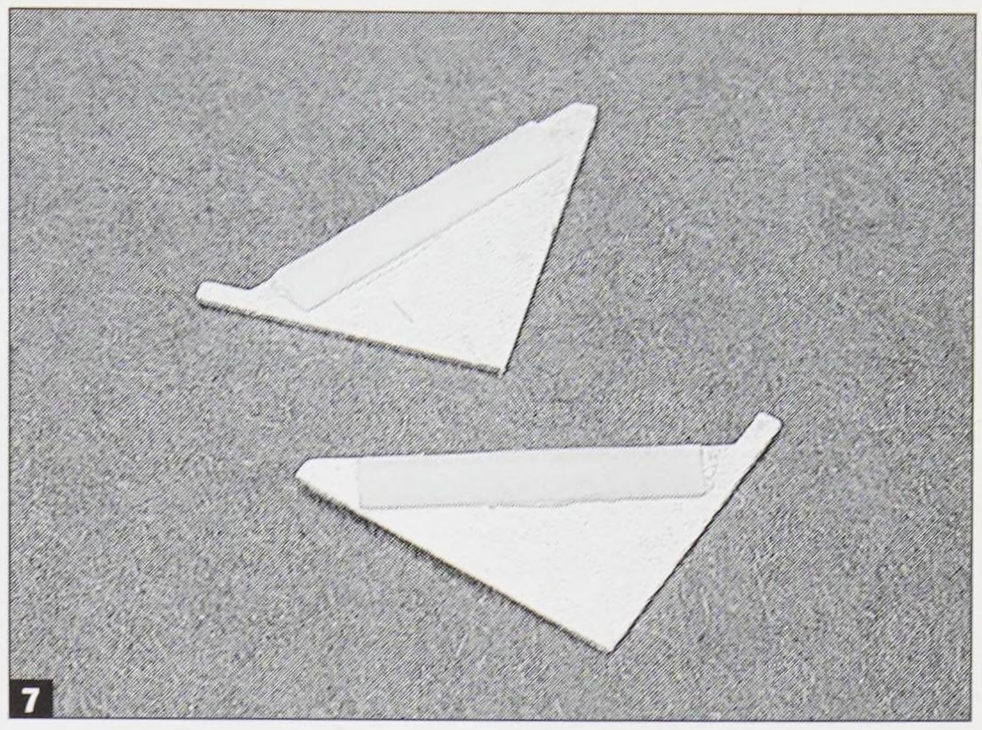
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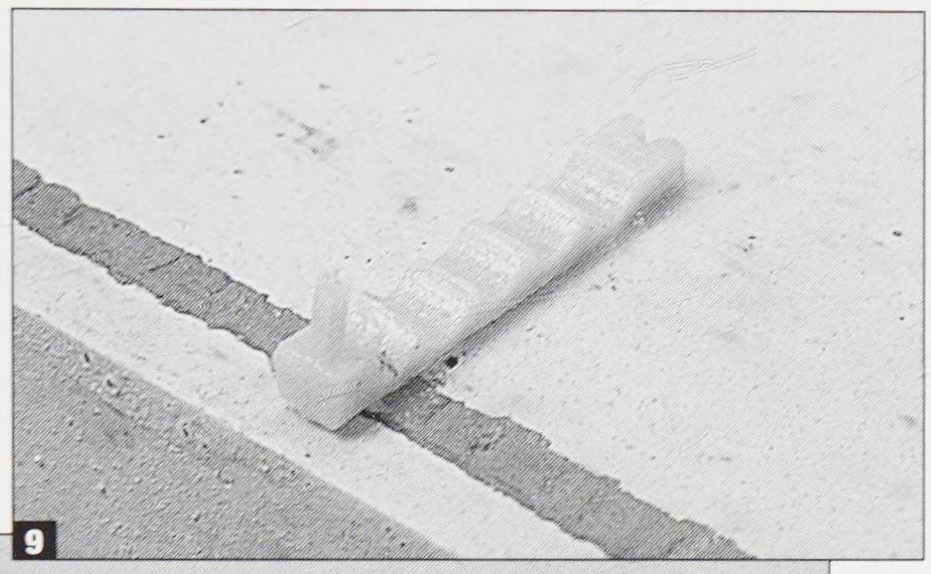
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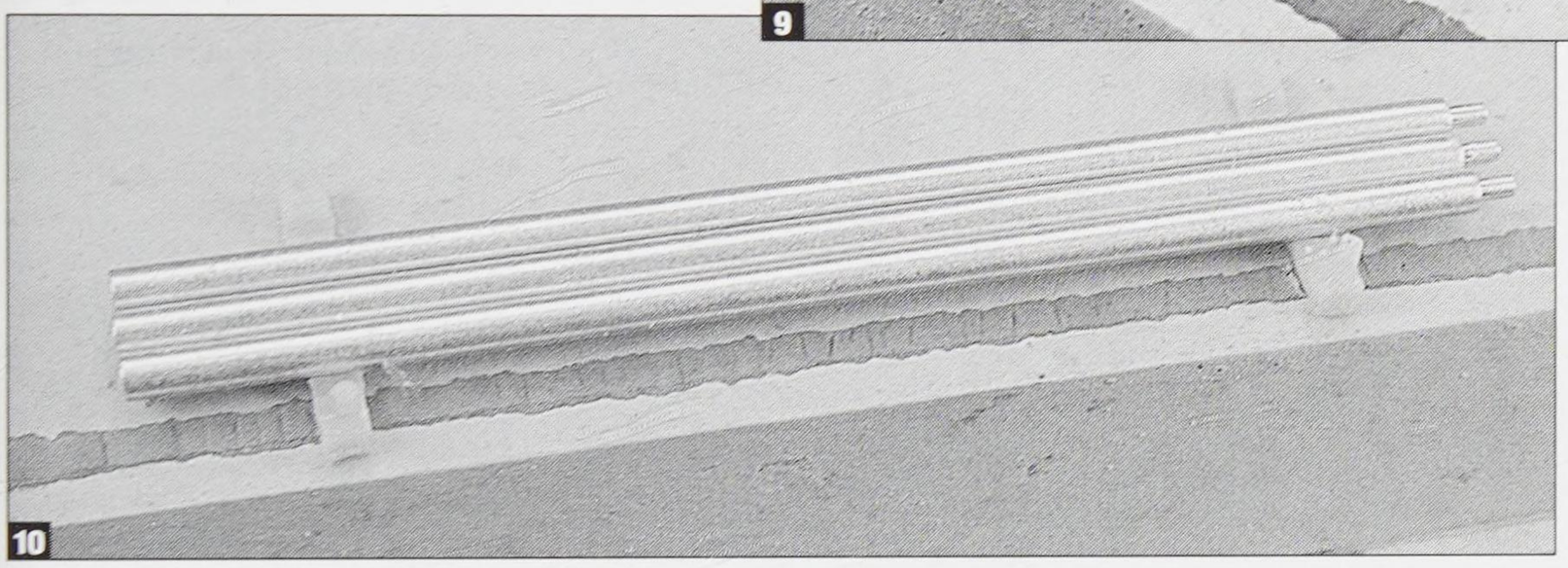
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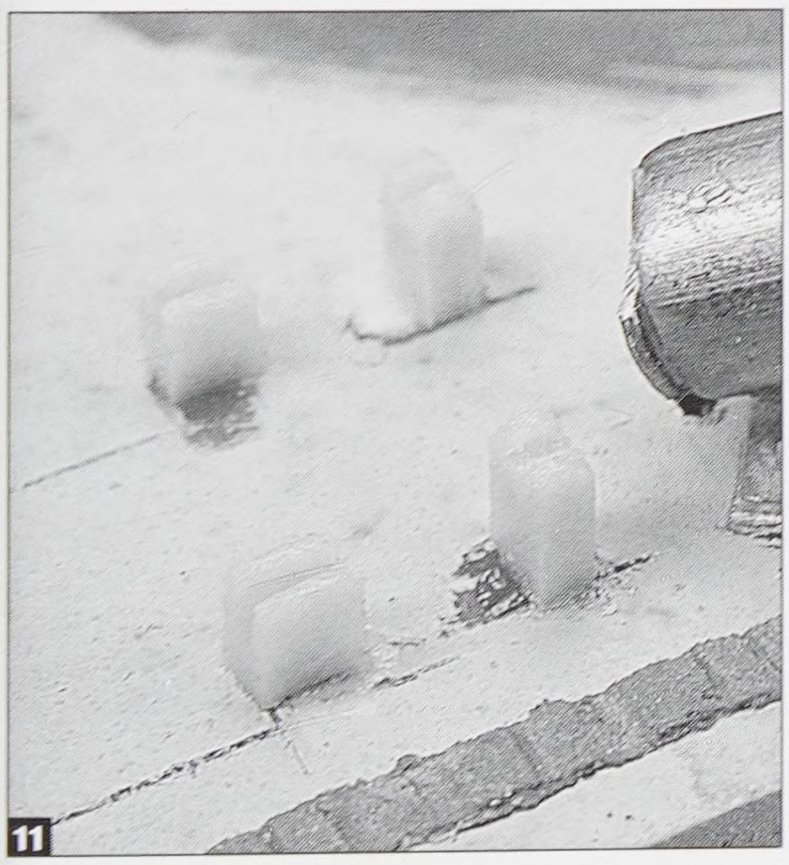
models. The initial stage is shown in **photo 4**. A disk and a hex shape are added to the terminal. The hex shape is also drilled to receive the electrical lead.

The complete set of Aber production fenders is installed on this model. Like the previous kit, I mounted them to a strip of styrene glued to the hull. I chose a thickness that was nearly the same dimension as the inside top bend. This meant the fenders could hang as well as seat against the strip. The strip is seen installed in **photo 5**. Using a photo-etched bending tool (see the general detailing section), all the panels were bent to shape and mounted on the styrene strip with super glue. **Photo 6** shows the fender panels and their Grandt Line hex nuts (#127).

The Aber instructions call for panels to be installed on the front and rear fender sections. I used short sections of Evergreen half round strip to act as reinforcements. These can be seen in **photo 7**. Aber also provides smaller panels to brace the bottoms of the fenders. This are very accurate, but oh so fiddly. I just glued small sections of plastic to the undersides of the fenders to keep them from flexing (**photo 8**). The final assembly was pretty sturdy.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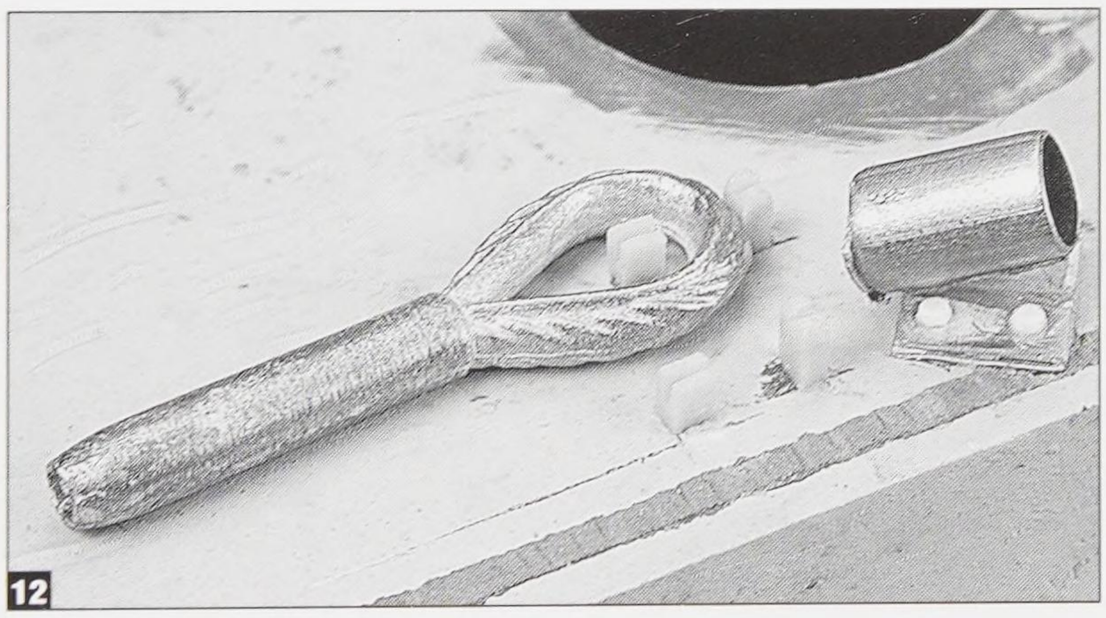
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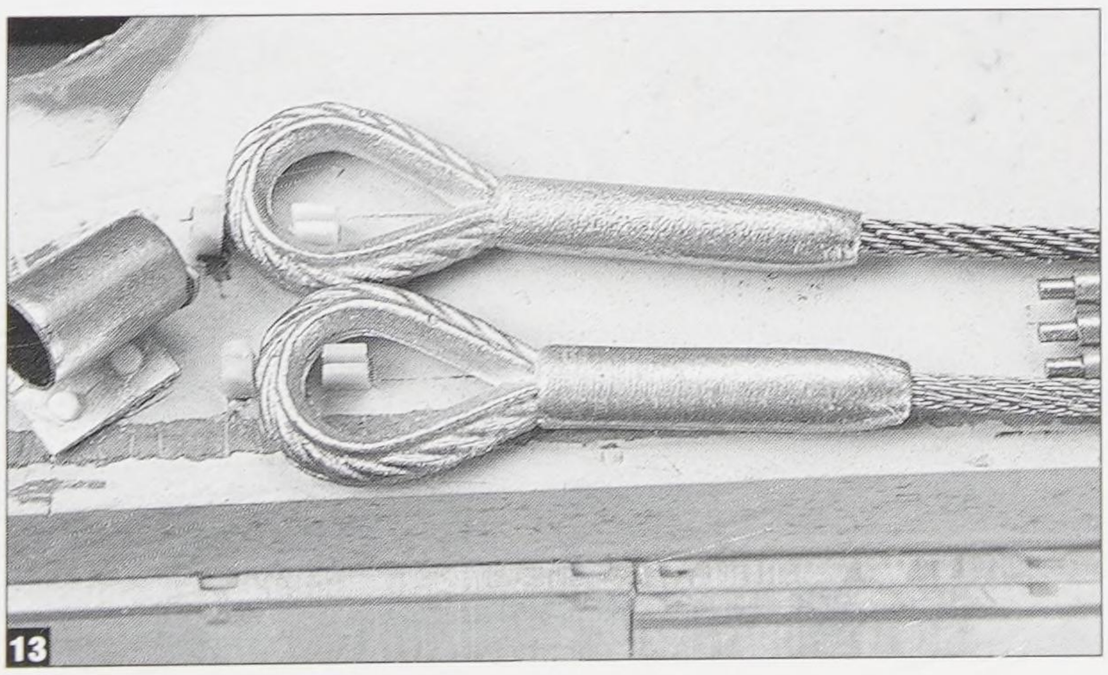
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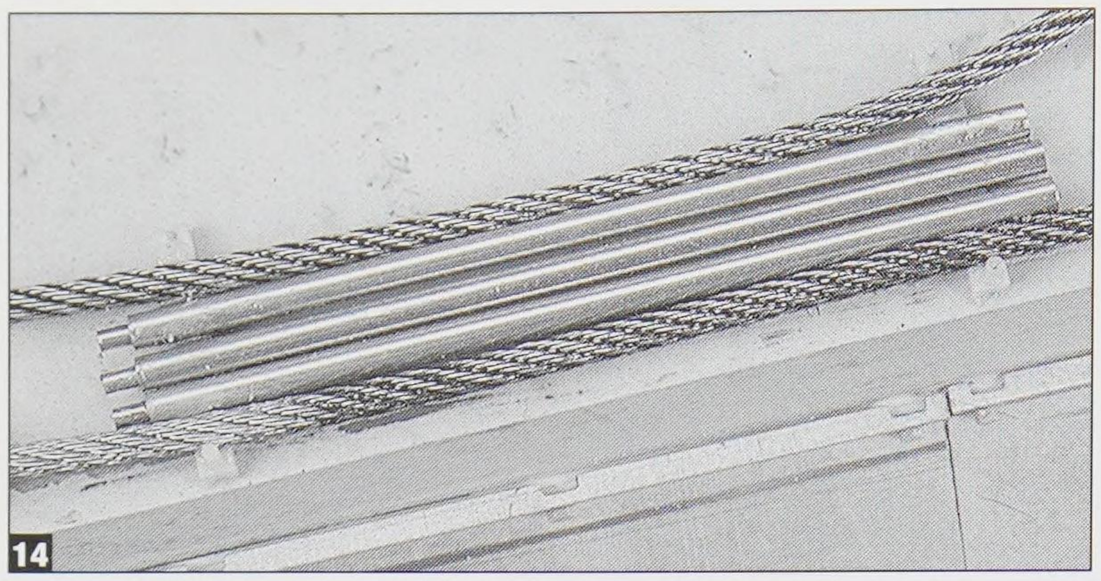
lengthened with plastic. The front of the box was then detailed with Royal parts, the exception being the super-mini clamps. These are Aber items. The top straps were test fit against the hull so that they would meet the hull panel flush and serve as another glue point. All told, there were 16 parts in this teeny little sub assembly. The finished part and the stock part are shown in **photo 3**.

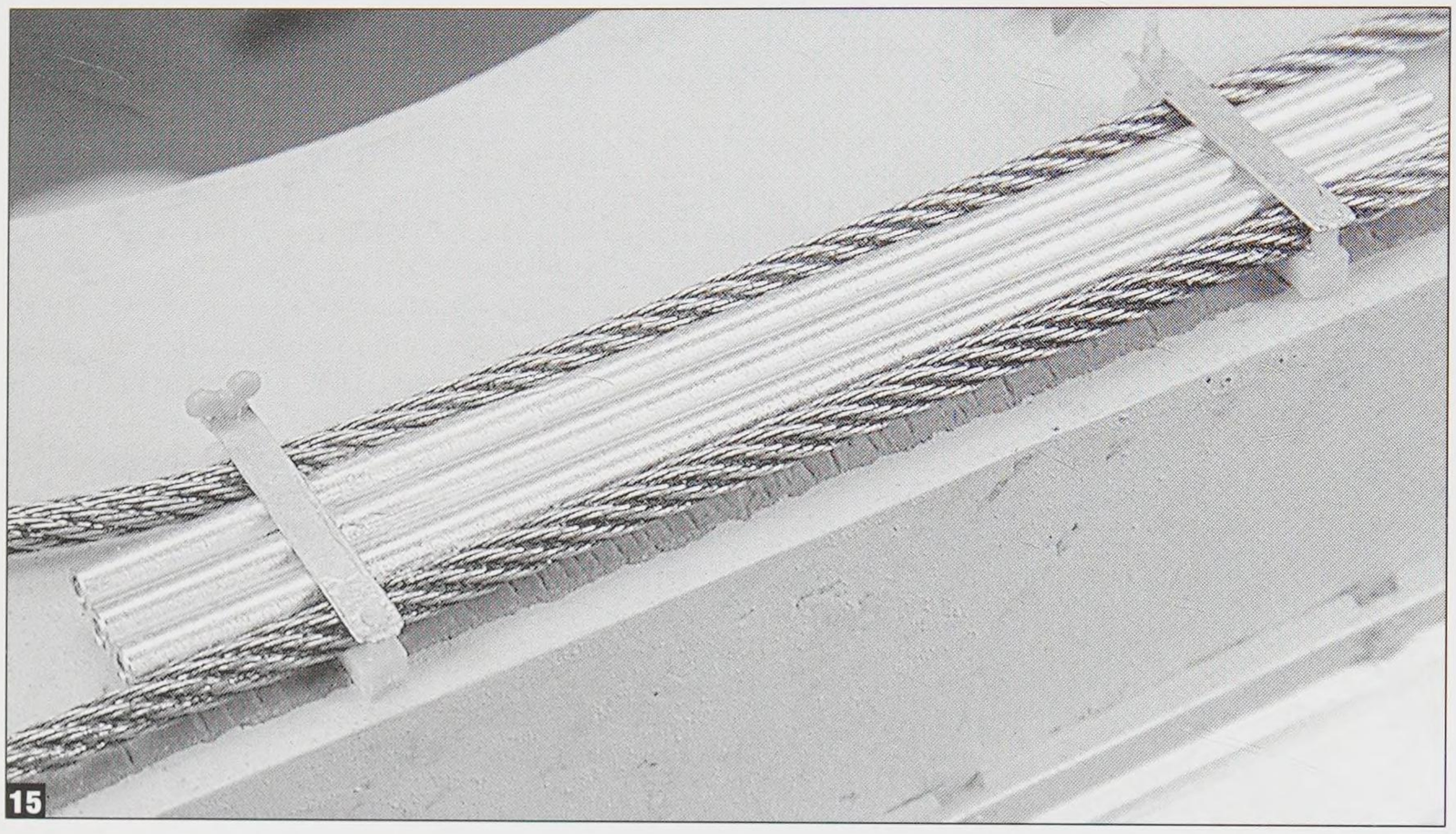
Although it's touched upon in other sections, the Bosch light terminals were detailed on all the

I clamp around, speaking of clamps

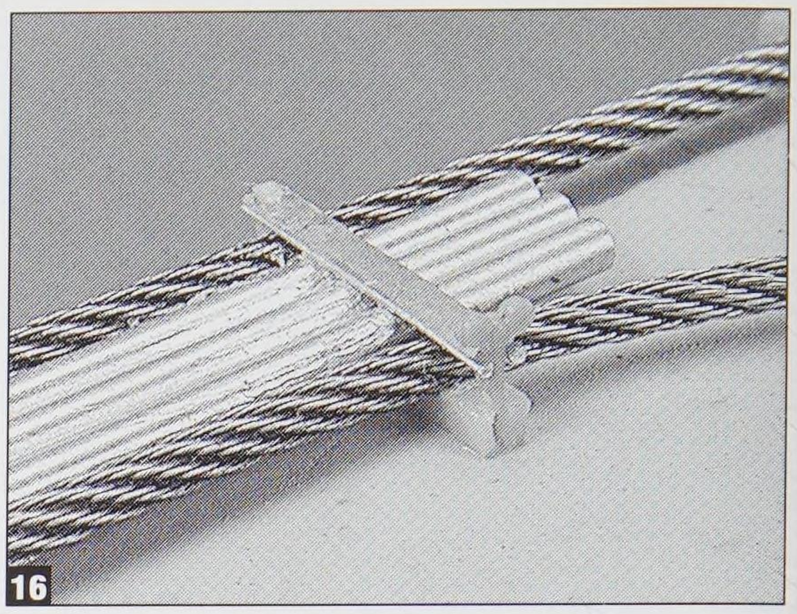
Royal was again the source of the cleaning rod and cable bracket mounts. These were located on the hull using plans as a reference. The post side of the bracket faces out and the ends extend beyond the weld beads. I had to scrape a small amount of the weld bead down to make the bracket sit flat. While installing them, I used the gun cleaning rods (Elephant) to check that they were sitting straight on the hull (**photos 9 & 10**).

I worked with both the cables and the rods as I completed each side. To install the cable clamp heads, their location was first marked out on the hull and then the heads only were laid in to check the fit (**photos 11 & 12**). Once I was satisfied with the fit, the heads were glued in place (**photo 13**) and the cables slipped into the heads. Before installing the cables, I glued





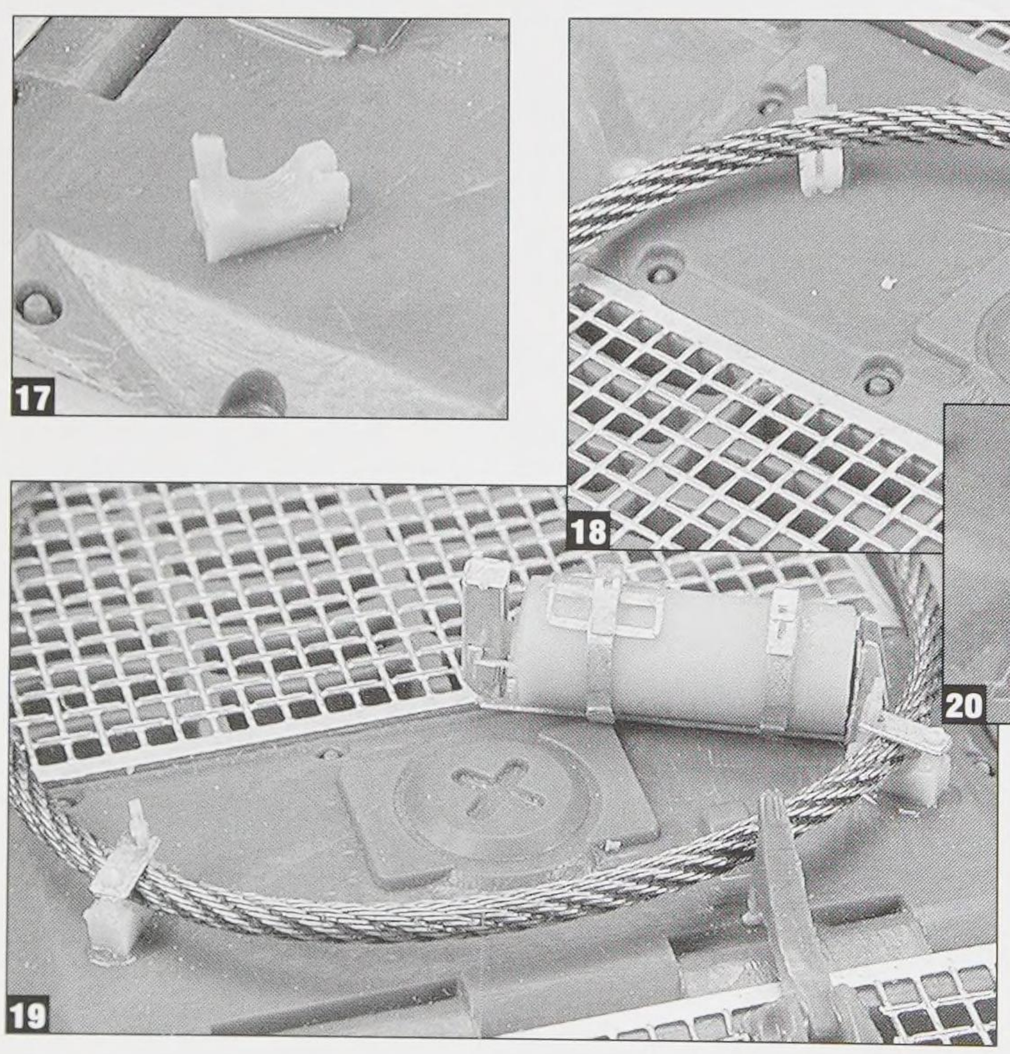
in the gun cleaning rods. These help force the stiff cable into position (**photo 14**). Once everything is in place, the flat part of the clamp was attached and the Grandt Line wing nuts were added. The molded-on shaft of the wing nut was mounted right into the bottom bracket, much like the real thing. The finished area is seen in **photo 15**, while **photo 16** provides a close-up view. ↓

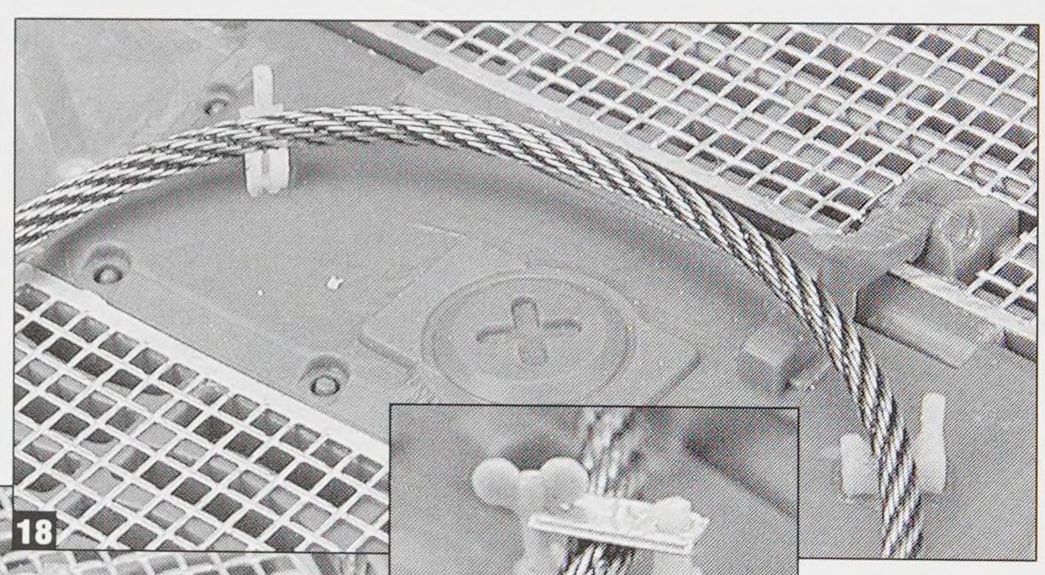


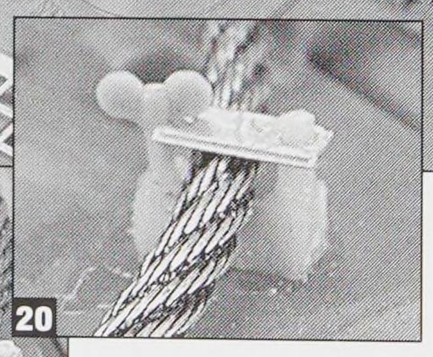
installed on the rear hull and **photo 18** shows the cable run through the clamps. The cable was carefully tacked into the clamp at this stage. The clamps are finished off with etched flaps and wing nuts. The finished parts are shown in **photo 19**, with a close-up in **photo 20**. The fire extinguisher is visible in photo 19 and this illustrates how it fits into the narrow area behind the cable. Also seen in these photos are the installed engine deck screens. The screens are found in both the Royal and Aber sets and they are virtually identical. These must be installed prior to adding the hinged grate stop and the stop must be installed in order to add the cables.

It's Royal to the rescue again for the jack brackets. How come no one ever thought of this before? There are two identical clamps and rests for the jack. The tops of the rests align with the bottoms of the clamps. The resin parts were installed along a central scribed line (**photo 21**). Plans and a finished jack were used to gauge the distance between the parts. **Photo 22** shows the jack mounted. Two additional resin parts are installed in the front and these lock the jack in place. Photo-etch flaps and wing nuts polish it off.

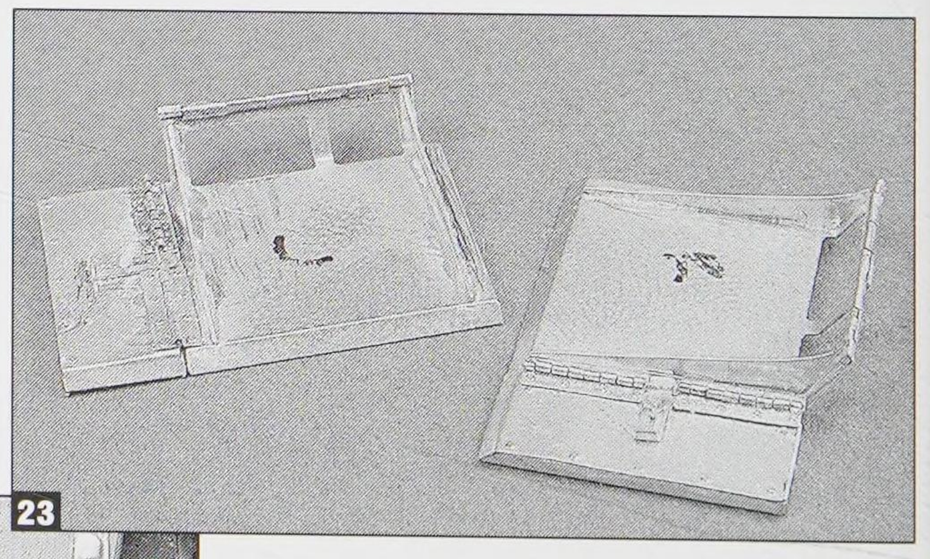
Also visible in photo 22 is the right rear fender. This is an Aber item and it utilizes two of the wacky Aber hinges, including a simpler hinge at the top. Interestingly, this hinge has ears that glue onto the rear hull. It turns out that this is the later design. The interim fenders found on these earlier tanks mount on the early style frame and have a thinner hinge. The hinge was attached to the frame with a thin weld. This is why later tanks eliminated the frame and had the top hinge with the "ears" welded directly to the hull. Both completed subassemblies appear in **photo 23**. What's left of the ears on the

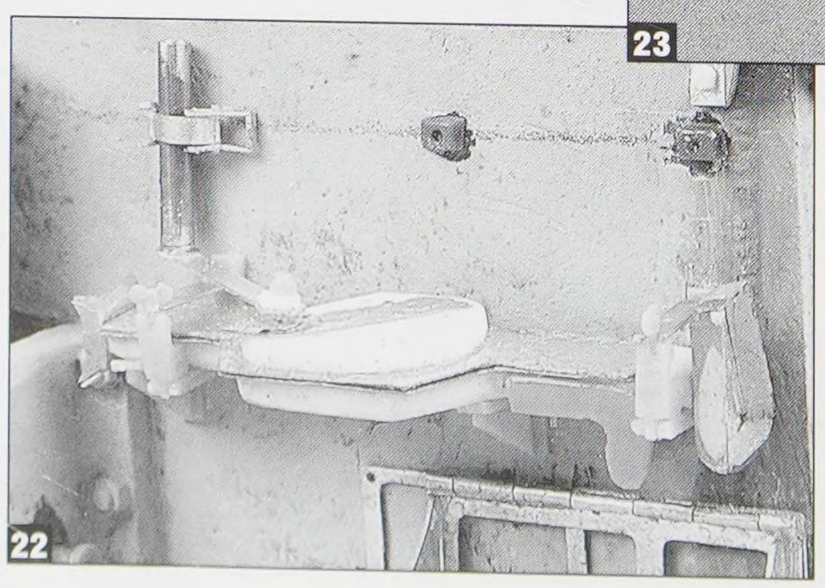




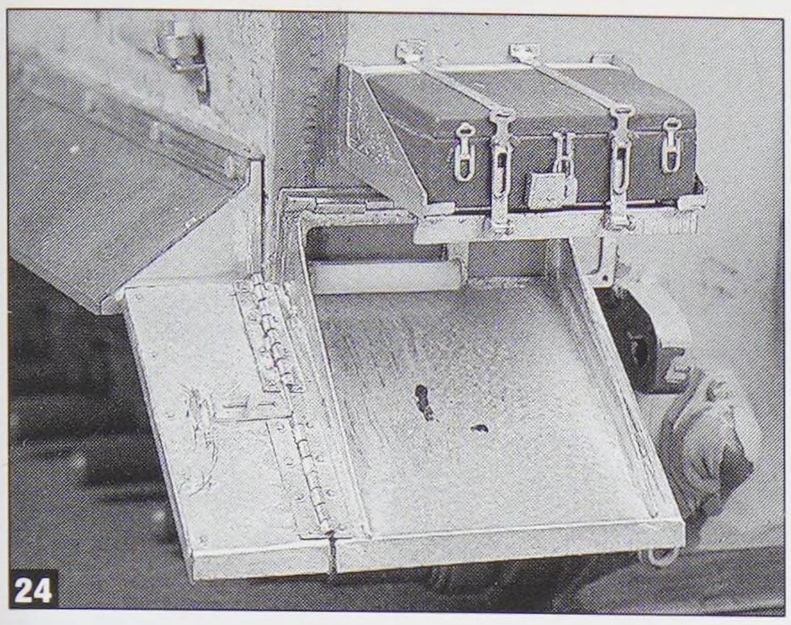


The rear clamps were installed at the same time as the previous parts. These are similar to the larger clamps, but are designed to only accommodate a cable. **Photo 17** shows a single part ↗





hinges can be seen on the part on the right. **Photo 24** shows the left fender installed. It's somewhat clearer here that the assembly doesn't completely line up with the frame. Odd, but correct. The track tool-box has been installed here, as well. The fender will serve to protect it during the remainder of the assembly process. Later the rear convoy light was installed in this area, made from Royal parts and a section of styrene rod.



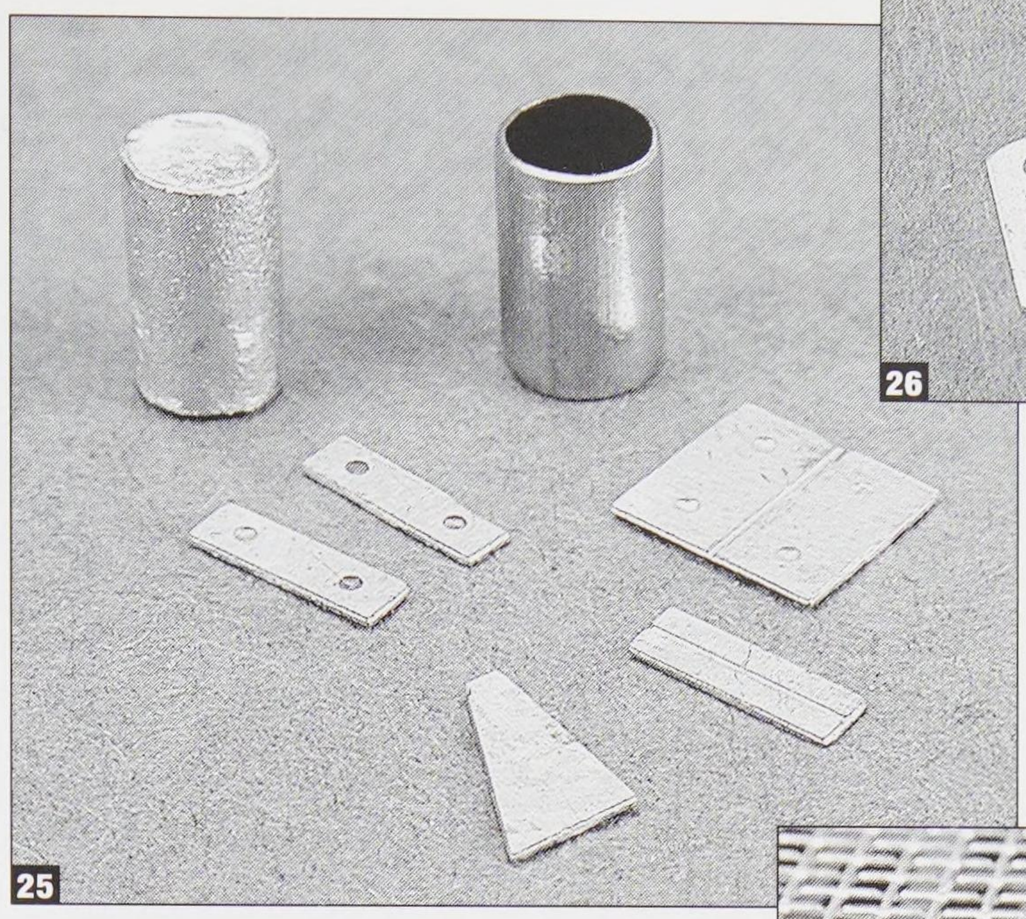
S. Mine, Esq.

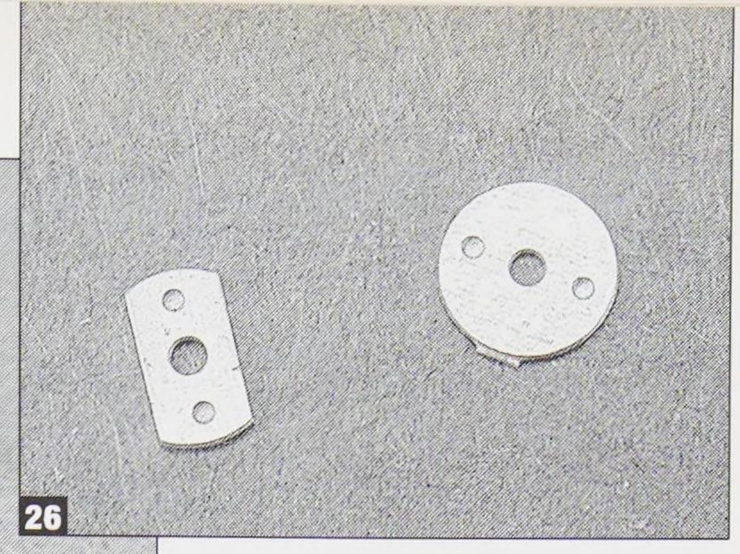
This is the only Tiger I tank in the book to receive a full set of S-Mine launchers. These simple devices were mounted around the perimeter of the hull and launched a small anti-personnel grenade. The idea was to thwart enemy infantry, but in the heat of battle, friendly troops often got the short end of the stick. Elephant makes a superb set of these launchers, which includes pre-cut aluminum tubes, photo-etched base plates and other hardware. White metal grenades are also included to slip inside the tubes. All the parts are shown in **photo 25**.

The base of the tube as supplied in the Elephant kit is rendered as a disk. On the actual launcher, this was a strap that crossed the back of the tube. I carefully cut the disk along its axis to duplicate this. The ends are still curved and the result is quite accurate. This operation is shown in **photo 26**. Also note the hole in the plate for the fuse igniter.

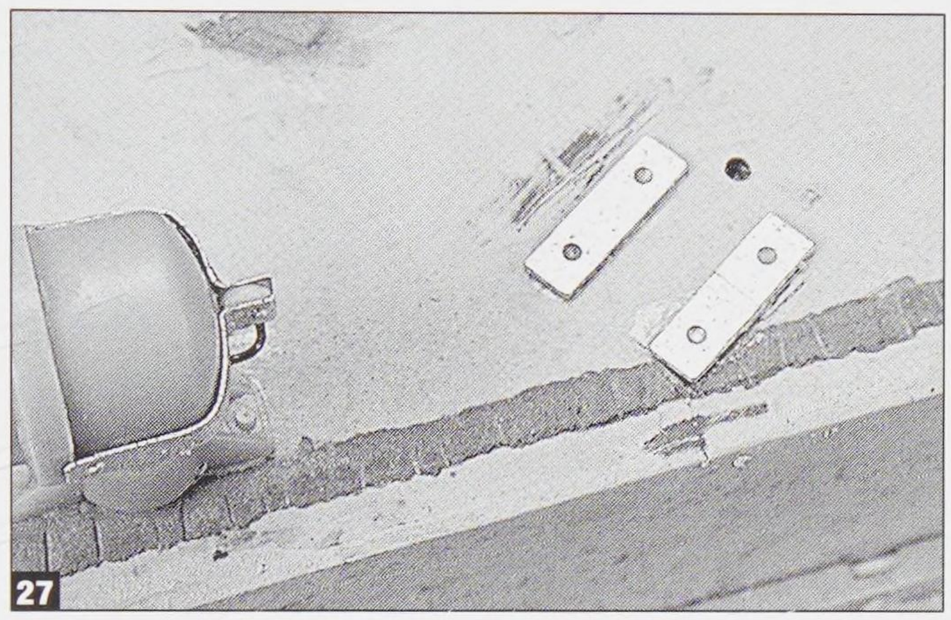
On the real tank, the launchers were attached to the hull via threaded plates that were, in turn, welded to the hull. These do appear on the Tamiya kit (as does an OK set of plastic launchers), but to ensure that everything fit, I used the Elephant plates. These are installed in **photo 27**. A small hole for the igniter wire was placed near each of these mounts and one can be seen between the plates.

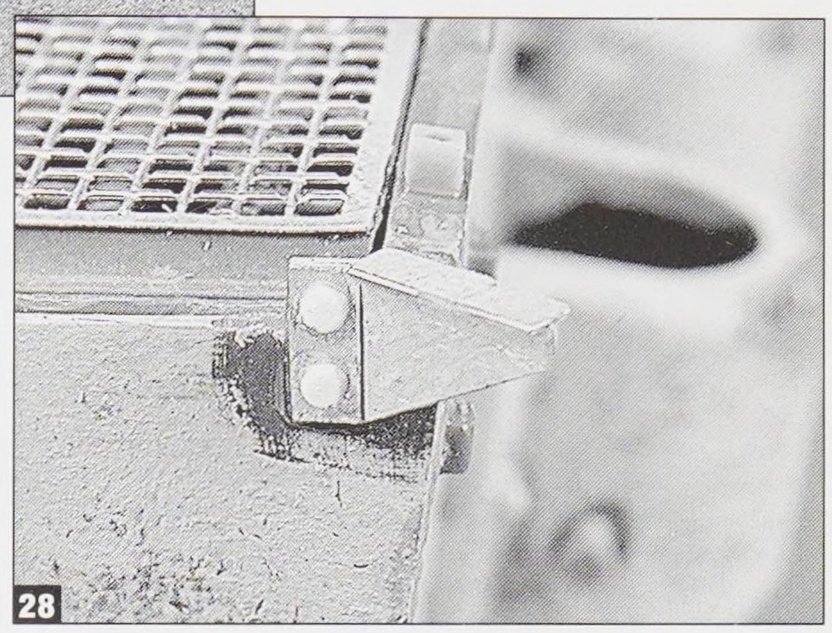
The rear corner launchers were also mounted to threaded and welded plates, but they run vertically. In **photo 28**, I've mounted both and added hex nut castings. The completed base plate and launcher tube can be seen in **photo 29**. **Photo 30** is of a completed corner launcher. On the corner launchers, the igniter wire runs into the engine deck grate. This is also a good photo of one of the hull tie-downs (between the Feifel bolts), which are described in greater detail later. Additional photos of the finished S-Mines can be found throughout the upper hull shots.

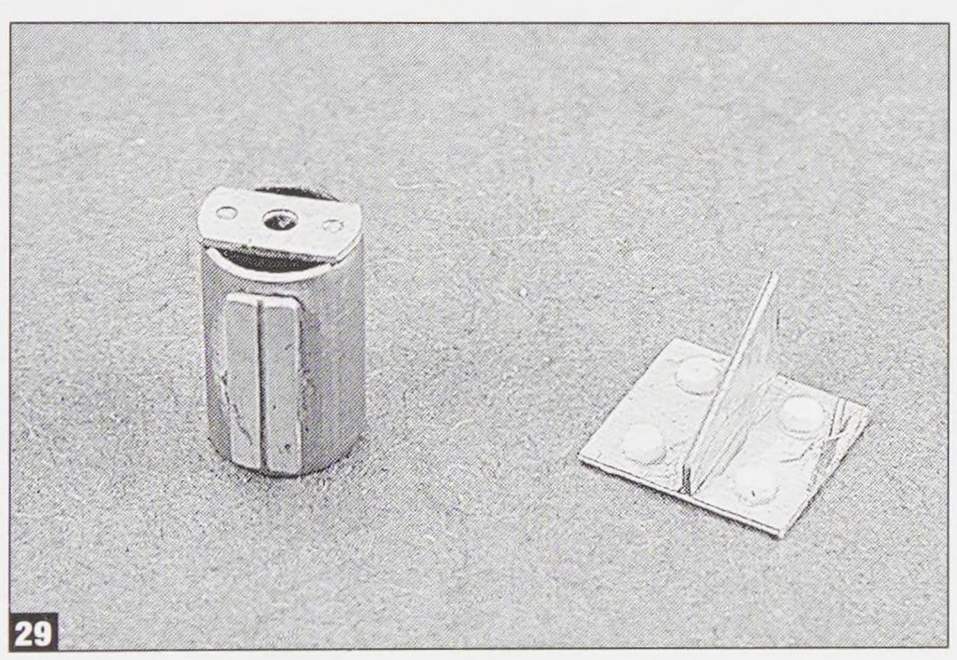


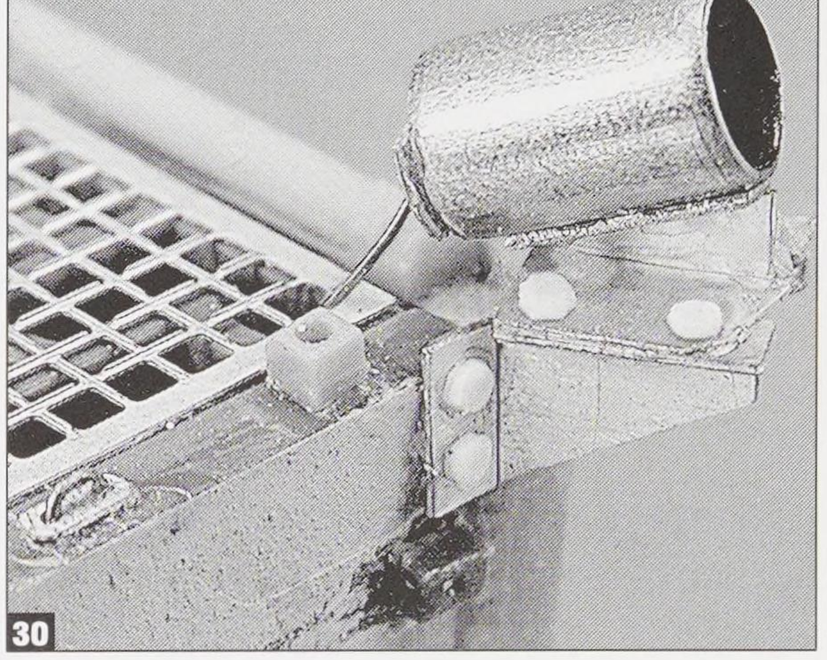


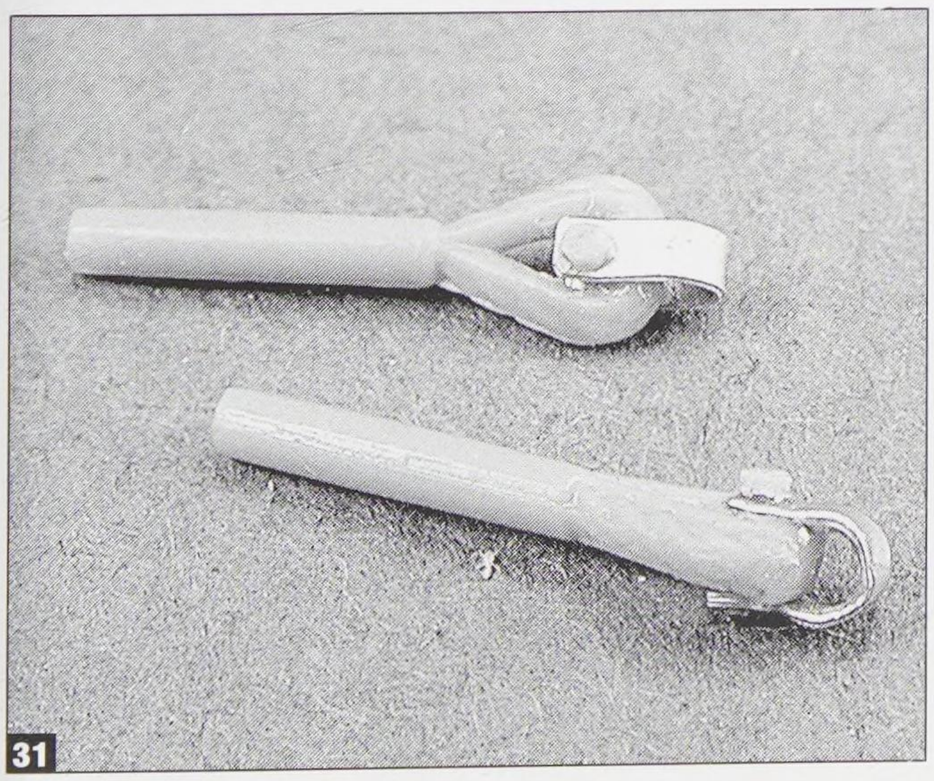
I trimmed away the heads from the Tamiya cables and then drilled out the heads. Retaining straps and bolts (from Aber and Grandt Line) were added as shown in **photo 31**. The empty loops correspond to posts mounted on the hull (**photo 32**). The heads were then glued right to the hull, with a special eye towards keeping them straight. The various Royal clamps were then installed according to scale plans found in the





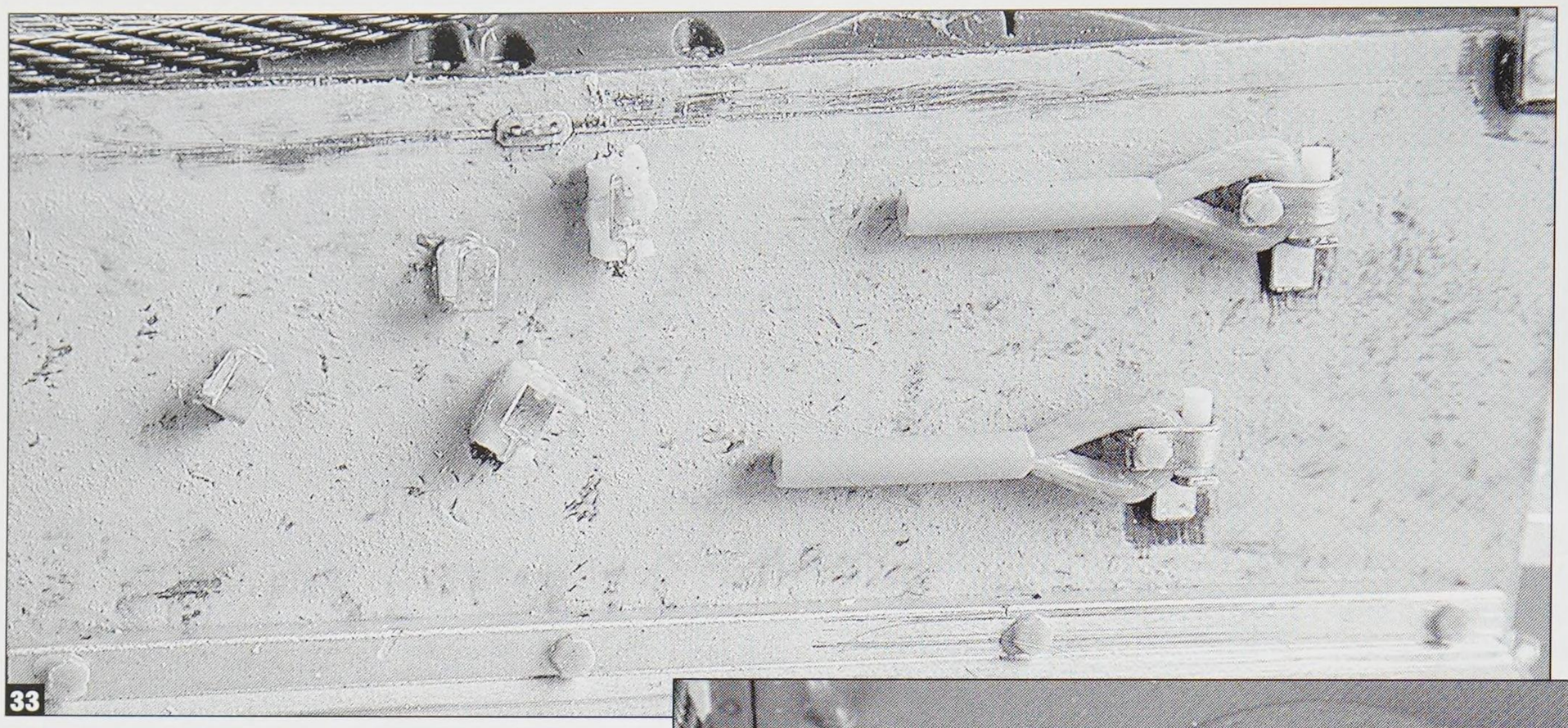






What, the hull?

I got a little sneaky on the side mounted track cables. I wanted to utilize the Royal clamps and hangers (similar to the tow cable stuff) but still use fine thread for the cables themselves. Here's the scheme I cooked up. ↑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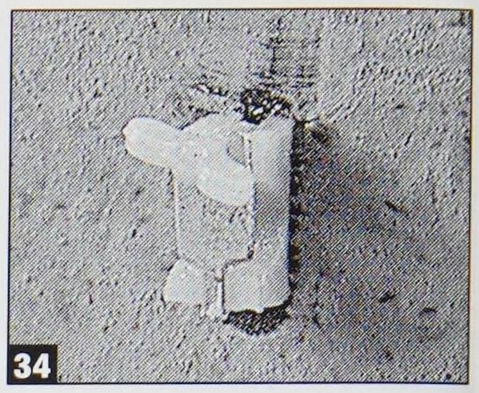
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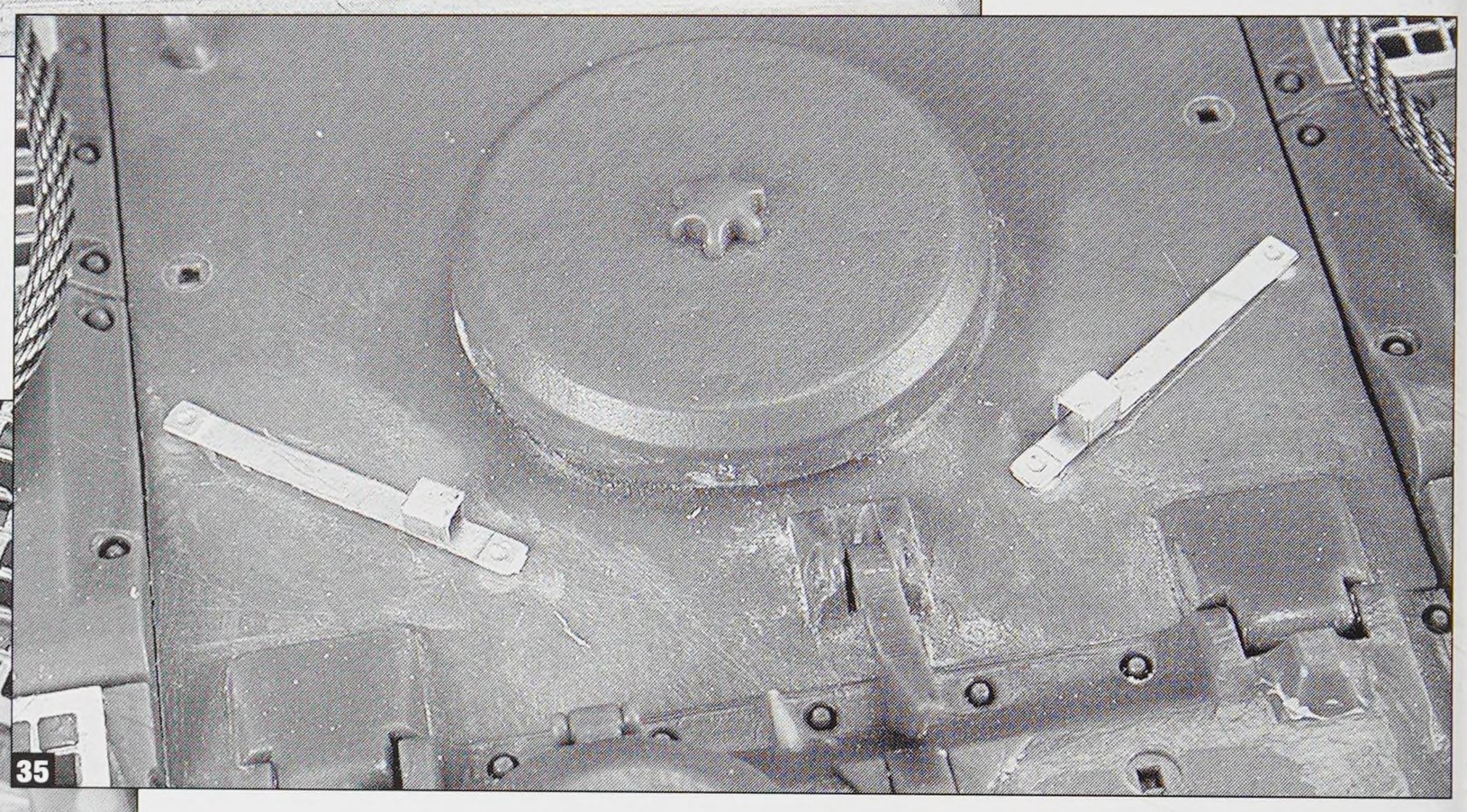
Jentz Tiger book (**photo 33**). A close-up of one of the finished clamps is found in **photo 34**. They are very similar to the rear tow cable clamps, but somewhat smaller. After painting and weathering was complete, black ship builders thread was snaked through all the various clamps and hangers. There are different patterns for the layout of this ↓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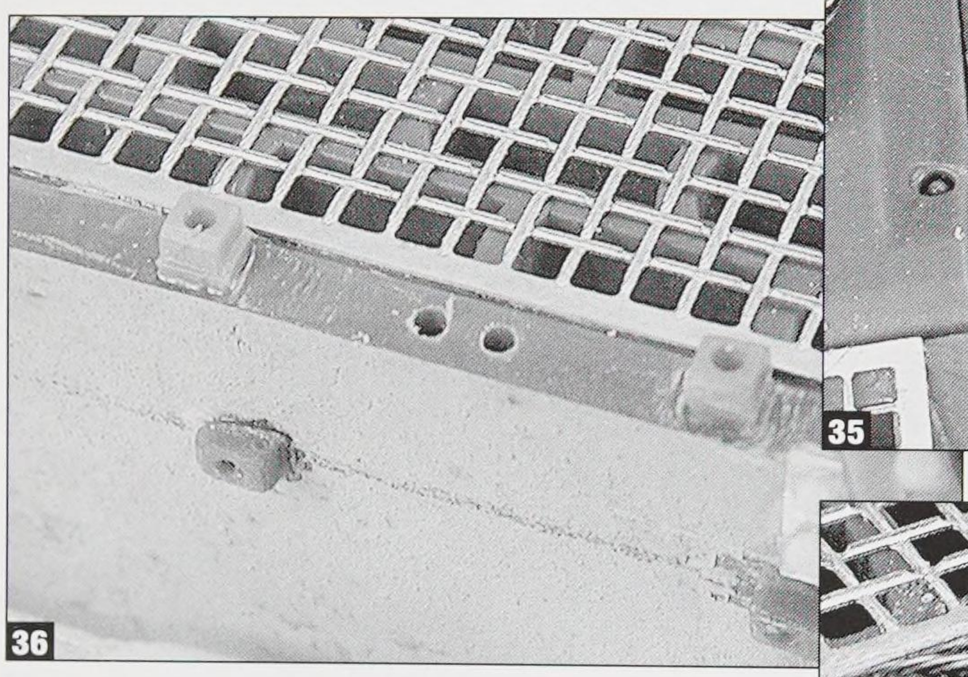
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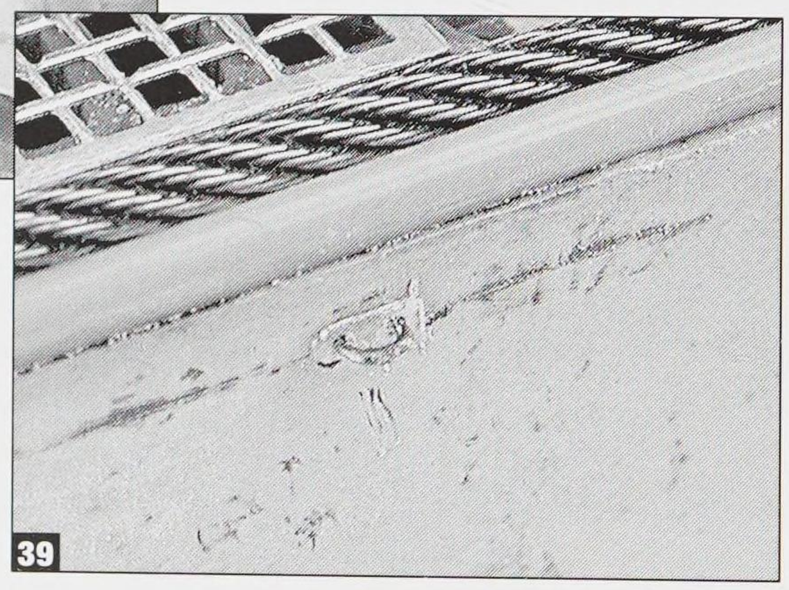
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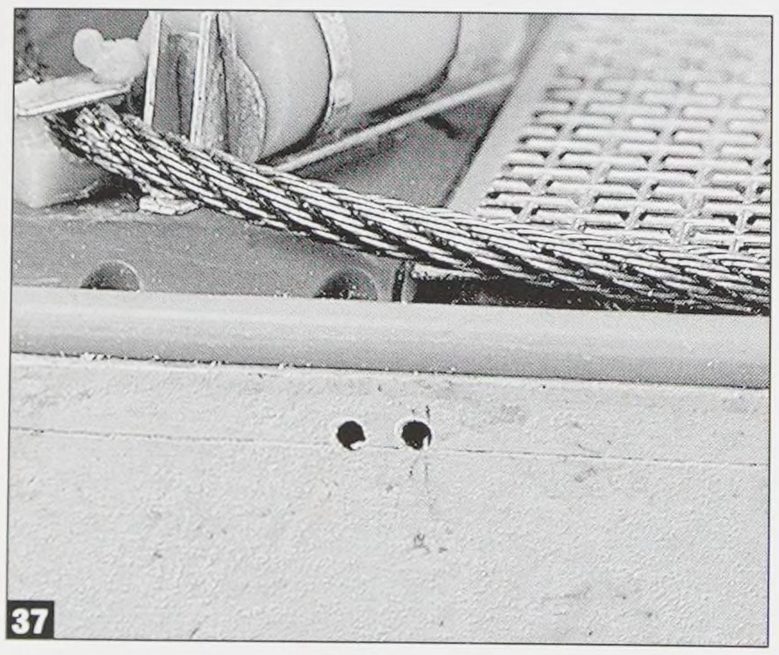
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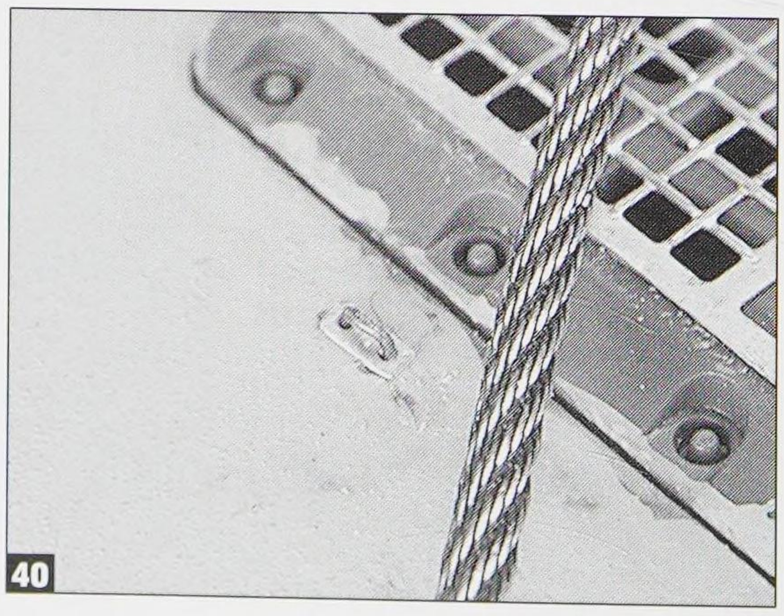
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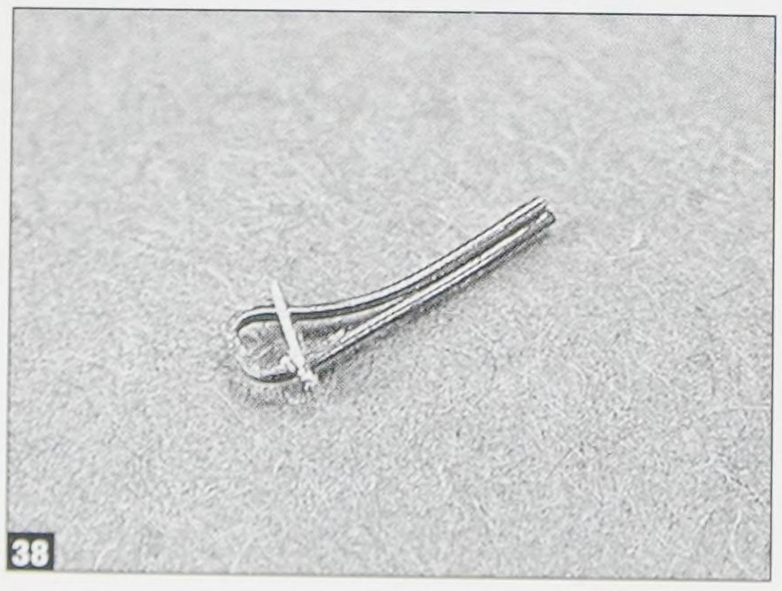
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cable, depending on the time period.

Back on the back... Even though the Feifel system is not in place, all the hardware is still installed. **Photo 35** shows the bottom bracket mounted on the engine deck door.

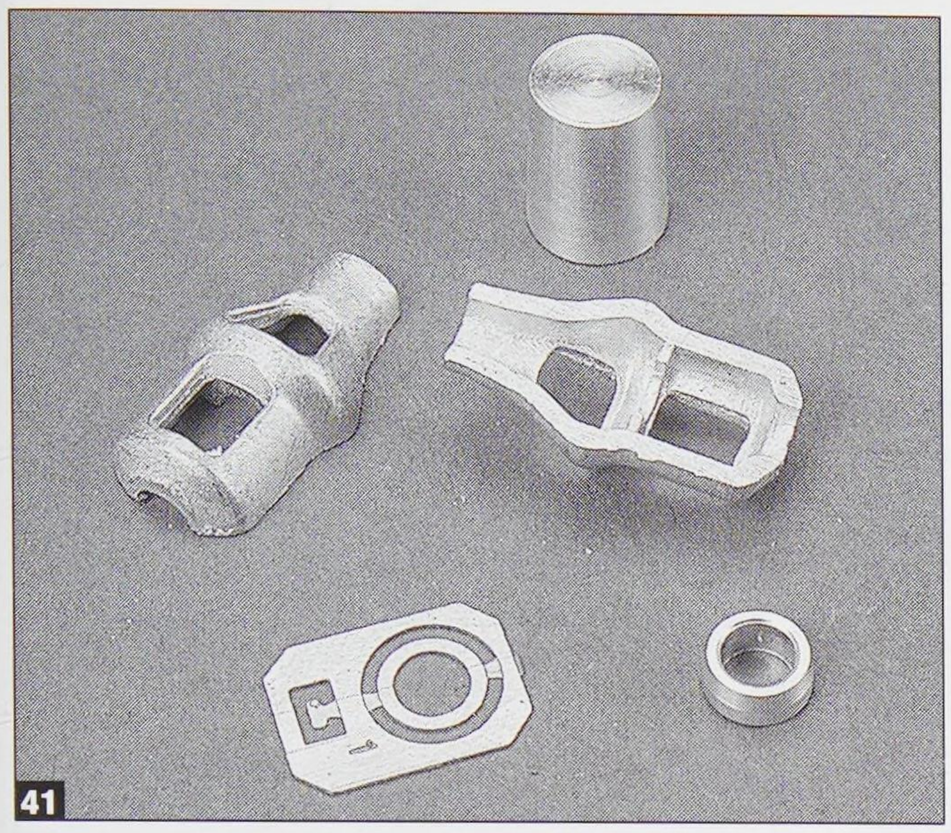
The aforementioned tie-down loops are ↑ installed around the engine deck and are designed to hold a weather cover in place on the engine during transport. This cover is rarely, if ever, seen in photos but the loops are always there (dammit!). Here's how I made mine.

Parts for the tie-down are included in the Royal 158 set, but they work in conjunction with a photo-etched loop that, in my estimation, would stay attached for about two seconds. I started by drilling two parallel holes. The size was such that the base plate would completely cover them up (**photos 36 & 37**). The loops were made with fine copper wire by slipping a small section through the base plate (**photo 38**). A thin sliver of lead foil was used as a gauge for the size of the loop. You could actually leave this in place and trim it down later if you wished to use the tie-down for the weather cover or other stowage. The results can be seen in **photos 39 and 40**. The location of these tie-downs jumped around the hull quite a bit and the Doyle plans were essential in determining their placement.

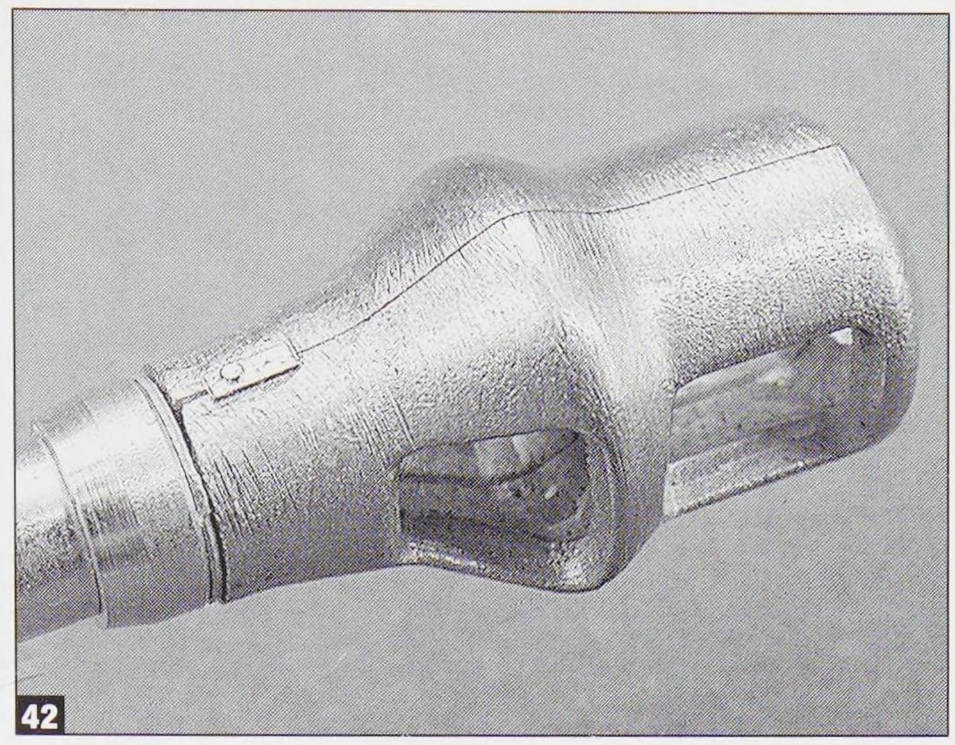
There's a turret?

Most of the Tiger I models in this book utilize the Elephant replacement barrel set. This includes a turned white metal barrel, a white metal muzzle brake and other parts. All these parts, except the barrel, are shown in **photo 41**. The completed brake is seen in **photo 42**. I especially liked the turned aluminum collar for the muzzle brake and the photo-etched retaining strip and ring. Meshing the two white metal halves was a hump and some small gaps can be seen in the photo. It's not really noticeable, but these are actually filled with super glue that is invisible in the photos.

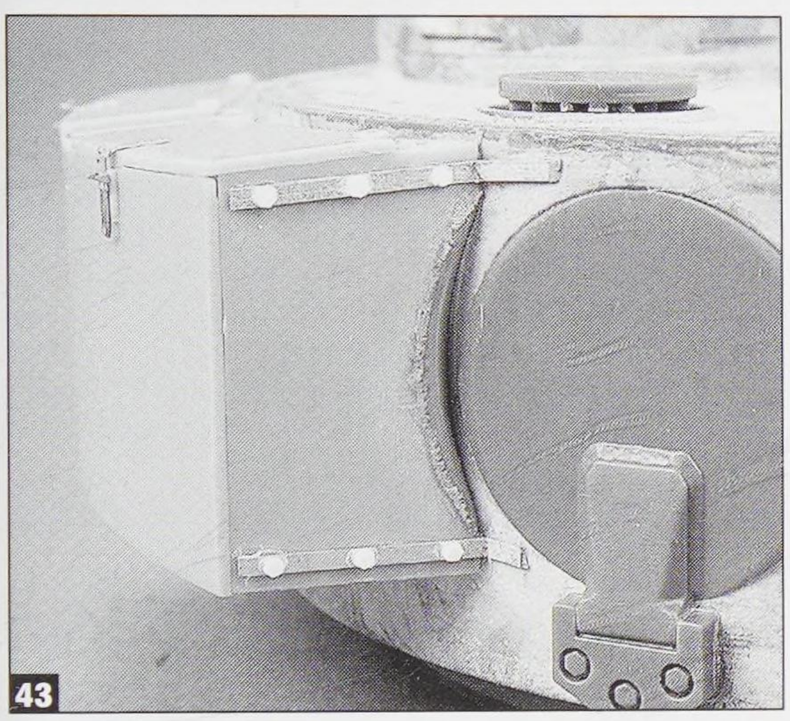
This Tiger uses the same early style turret stowage box seen on the Tunisian Tiger (the standard box wasn't introduced until late January 1943). I detailed this part as a comparison to the previous kit, adding new attachment straps from brass,

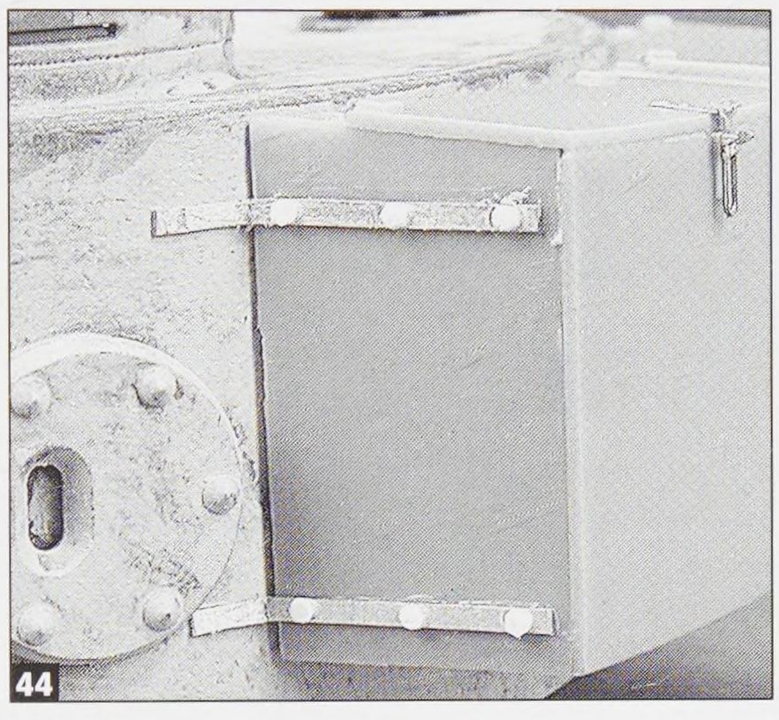


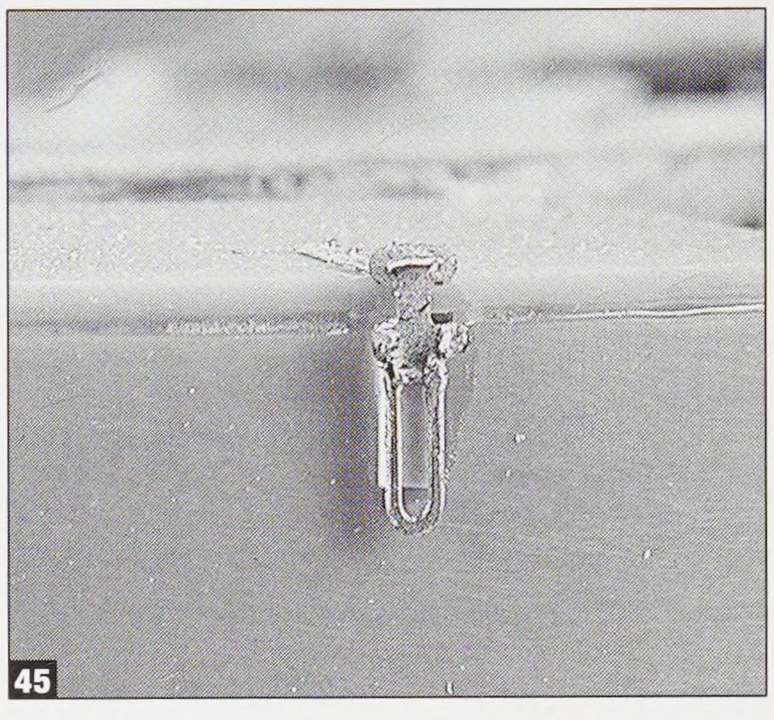
plastic hex huts and brass clasps. These early boxes could not accommodate the changes in the turret design unmodified. A section of the box was cut out due to the addition of the large right side escape hatch. A shallow radius was carved in the plastic and a weld bead was made from red putty. All these modifications can be seen in **photos 43 & 44**, with a close-up of the clasp in **photo 45**. The clasp is a Royal item mounted on thin plastic stock.

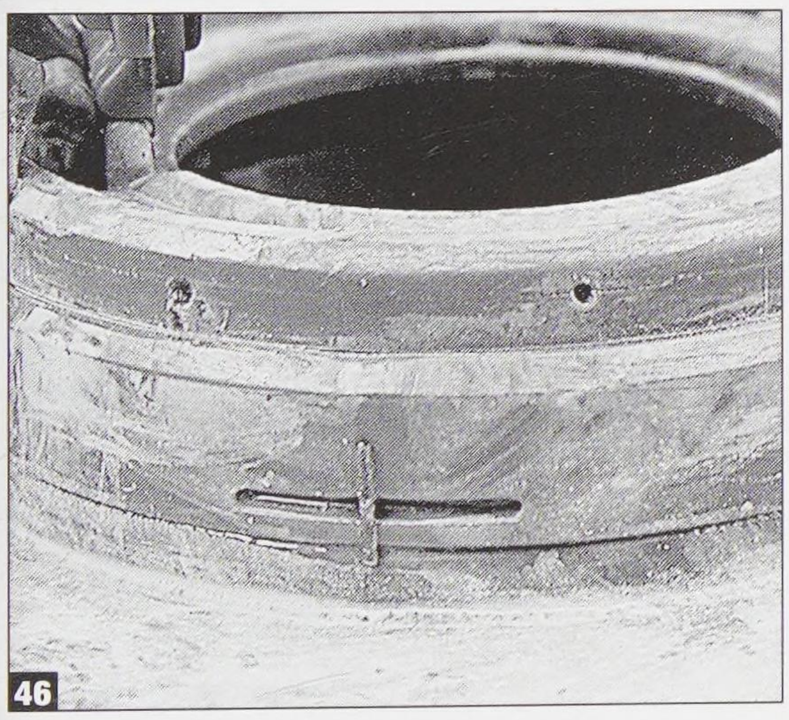


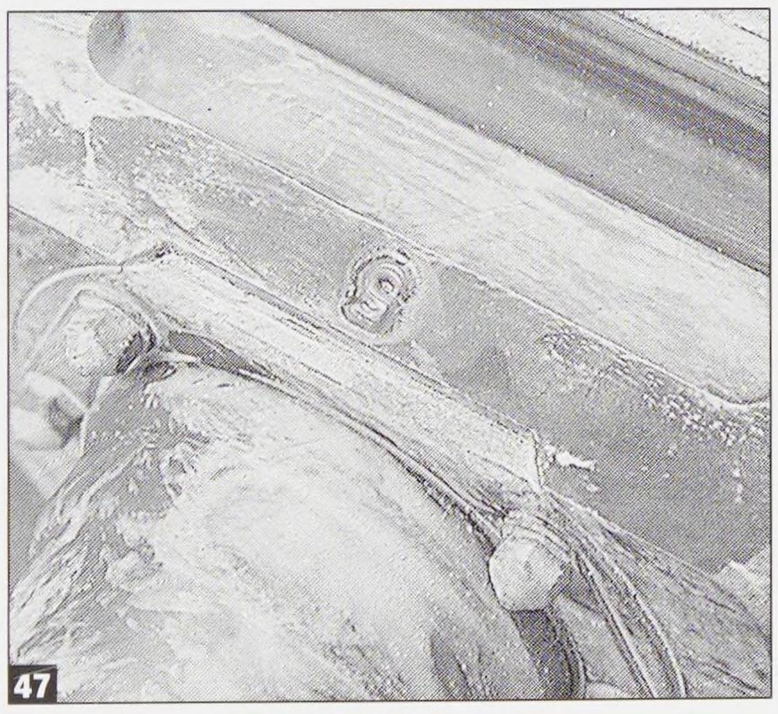
A small section of steel rod was often welded on the front visor slot of the commander's cupola to help him roughly aim the main gun. This was added from a short piece of sprue and is shown in **photo 46**.

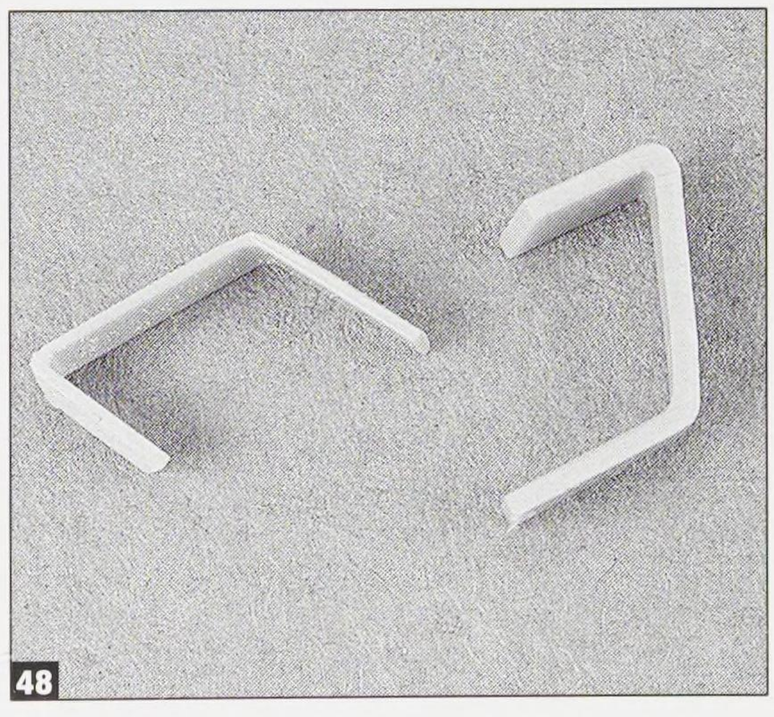












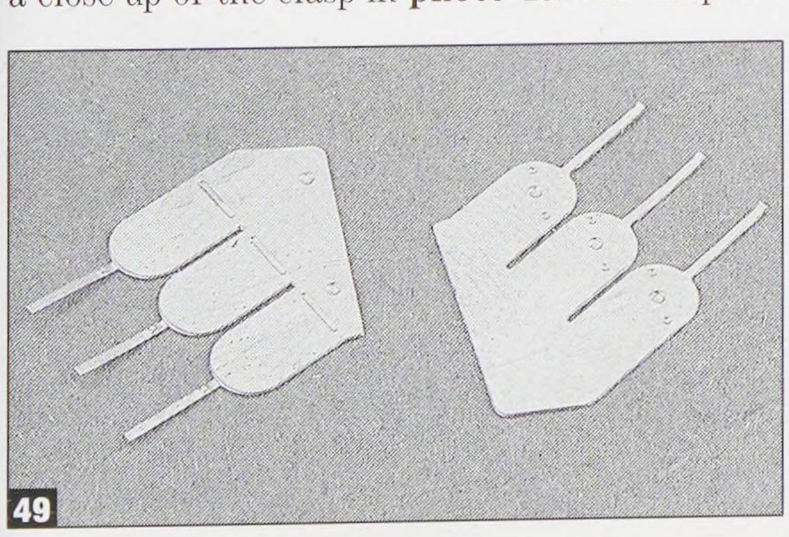
As mentioned, some of the Tiger components occasionally contained casting numbers. Another part is the turret mantlet. I added the single number 5 (**photo 47**). Many photos of Tiger turrets show single numerals, although I've seen shots of late turrets sporting two or three capital letters.

The turret smoke launchers on all the Tiger Is were extensively modified where they were installed. The following text describes the basic method for detailing them. There were some different things done on each model, but those are normally called out in the text for those kits.

Nearly all the brass sets contain parts for the support arms, but all are very difficult, if not impossible, to bend. It was less work for me to simply thin-down the plastic parts provided in the Tamiya kit. I used a sanding stick, moving the part against the stick. In **photo 48**, the stock part is seen on the right and the thin downed version is on the left.

Of all the parts representing the tube base plate, the Royal piece is the only one to include the clips for the insulators beneath the tubes. The Royal part is also marked for the location of all the insulators and attachment bolts. The clips have been cleverly attached to the base plate and they bend over and around to trap the insulator (**photo 49**). This could be the most insane thing I did on these models, but the base plates were completely wired and the insulators and bolts added. This was all done while the plate was still flat (**photo 51**). The wires were trimmed at the top where a thicker wire leads into the top of the turret. Once this was complete, the individual sections of the part were bent into their proper angles (**photo 52**).

The Elephant set for the turret smoke launchers includes hollow tubes, just like their S-Mine set. They are also notched. These are shown in **photo 50**. **Photos 53 & 54** depict the finished parts installed on the model. The biggest drawback is that the detail on the lower tubes is barely visible, due to the angle of the mounting arm. The thicker wire lead is seen in photo 53, as are the weld beads, made from epoxy putty.



And don't forget the hull

A somewhat more practical method of dealing with the fording cover bolts for the MG port is seen in **photo 55**. I used the Aber mounts, then wedged

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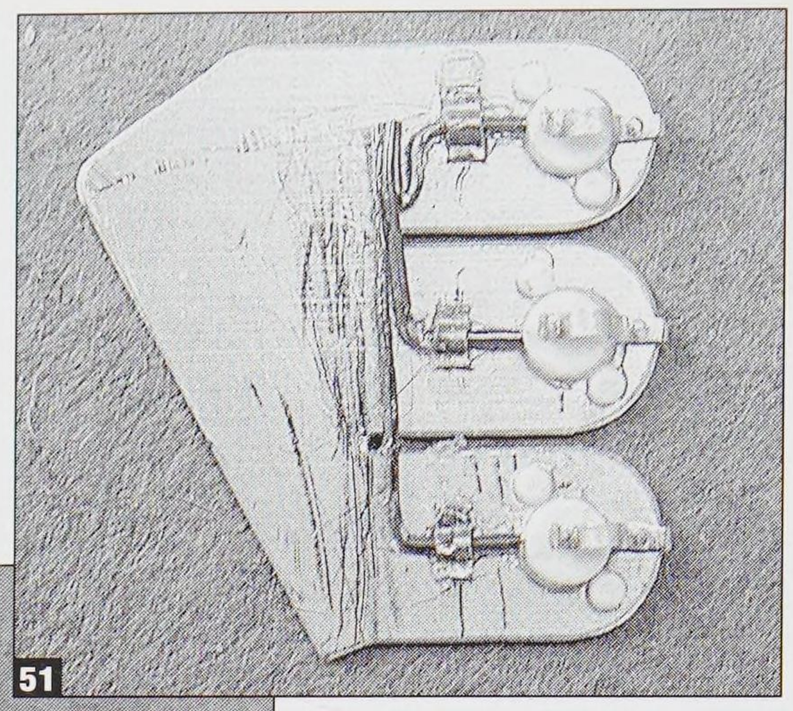
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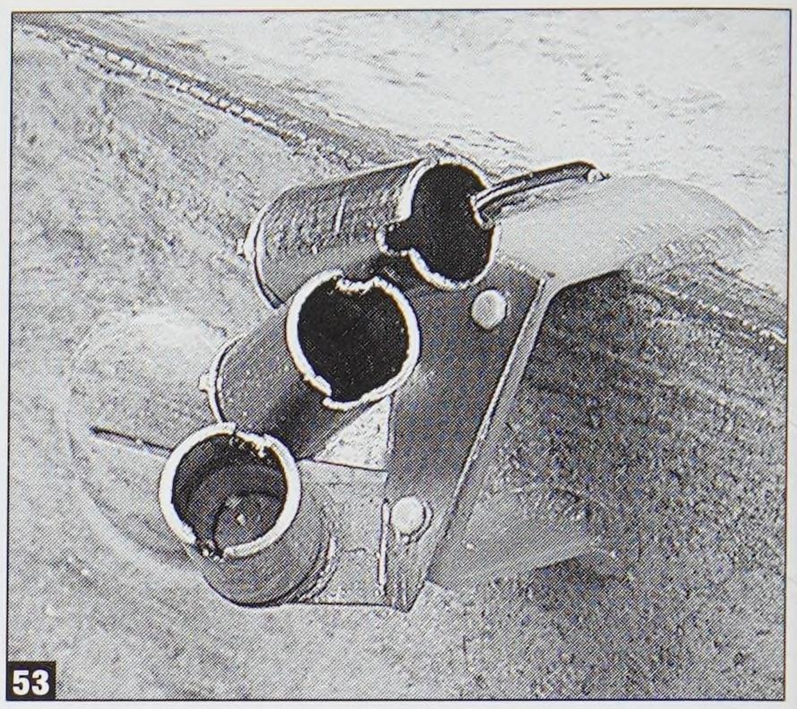
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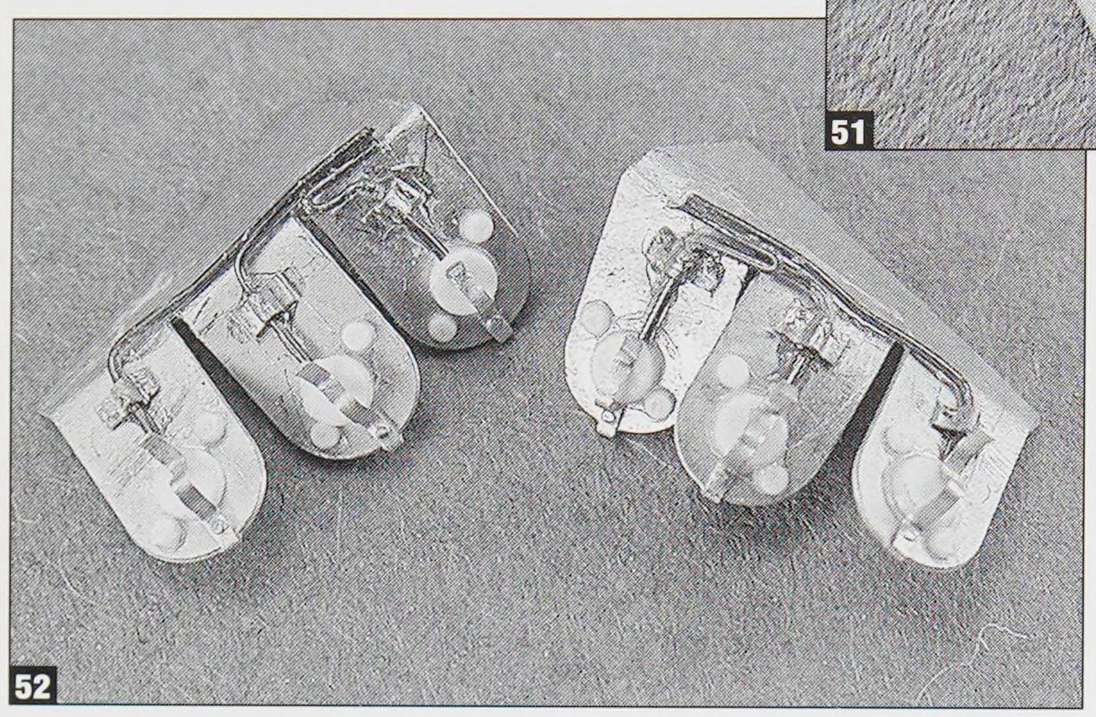
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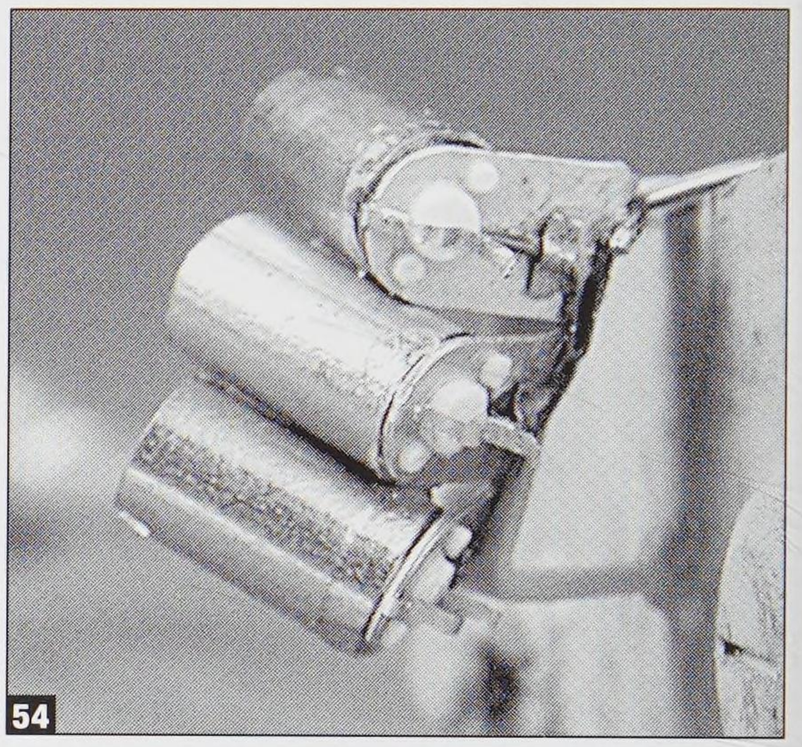
but is designed to install around the cover. Small mounting blocks kept the cover off the hull and these were made from extra Feifel mounting bolts.

The main suite of tools is slightly different from the Tunisian Tiger and the layout is seen in **photo 57**. **Photo 58** shows the right side of the hull with the finished tow cables, light lead, S-Mine and the wire cutters installed. The larger shovel is seen on this early vehicle. The Tamiya item is installed with Aber brackets in **photo 59**.

I delve into the front and rear fender construction in a later section, but there is a nifty little resin detail I'll mention here. The Royal set contains a gorgeous little resin spring clamp that holds the front fenders in place. Left and right parts are supplied and these bits save a ton of time and provide a very pleasing result. This can be seen installed in **photo 60**.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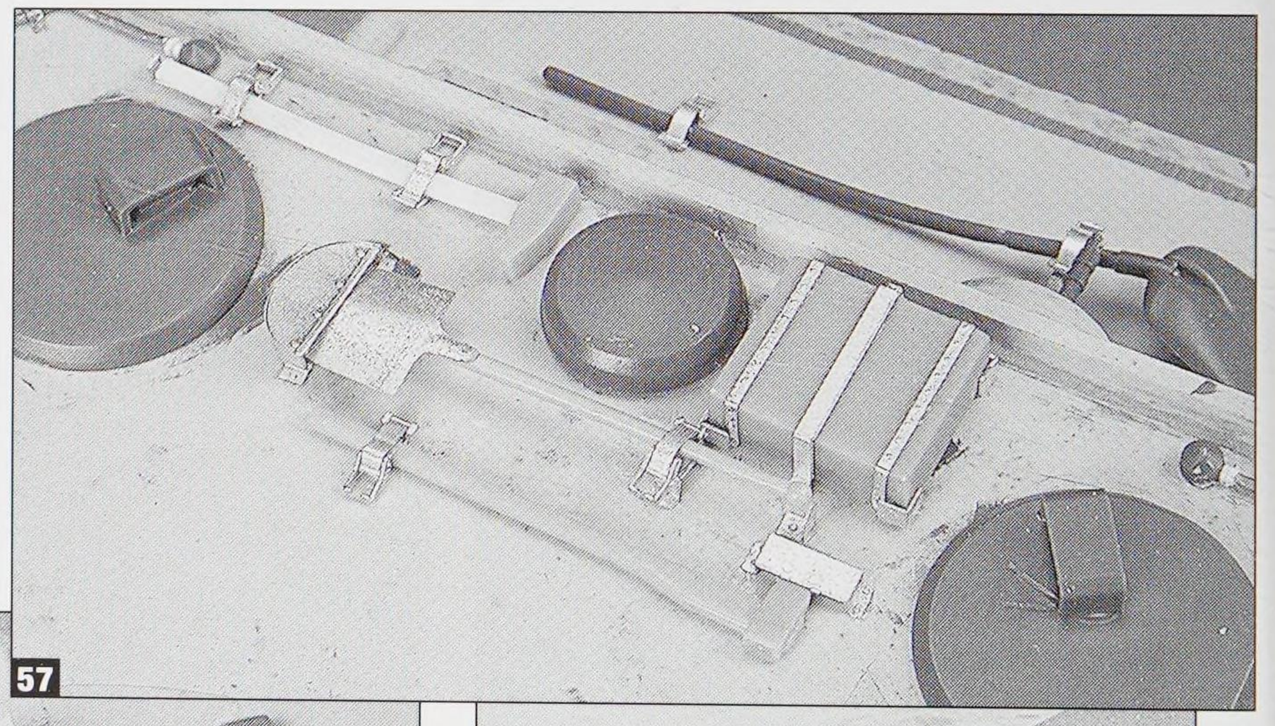
in short sections of thin brass rod. Wing nut castings were added directly to the hull and butt up against the ends of the rod.

On early vehicles, when the Feifel gear is not installed, a waterproof cover is placed over the port found in the engine deck access door. When not in use, this cover is stowed on the top left side of the hull. Since my model does not mount the Feifel gear, I installed the cover on the door. The empty bracket and mount for the cover are shown in **photo 56**. The bracket is included in the Royal set,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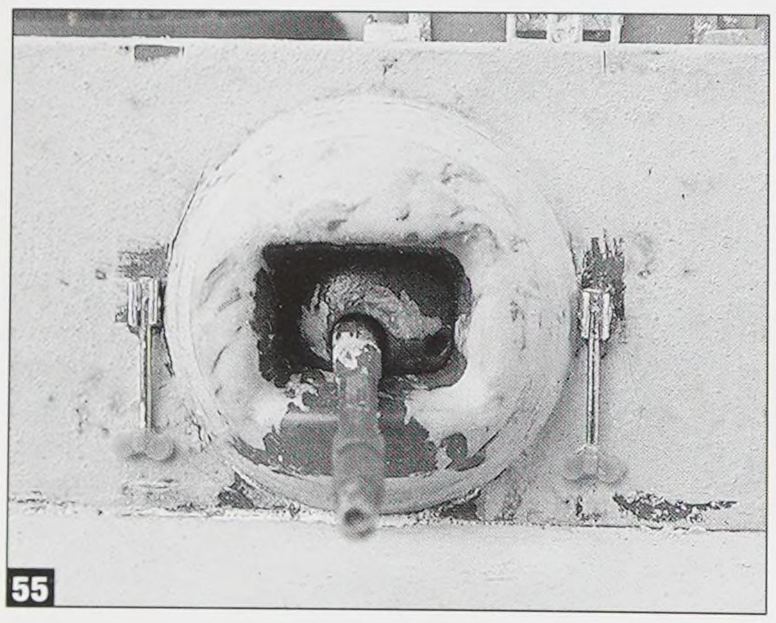
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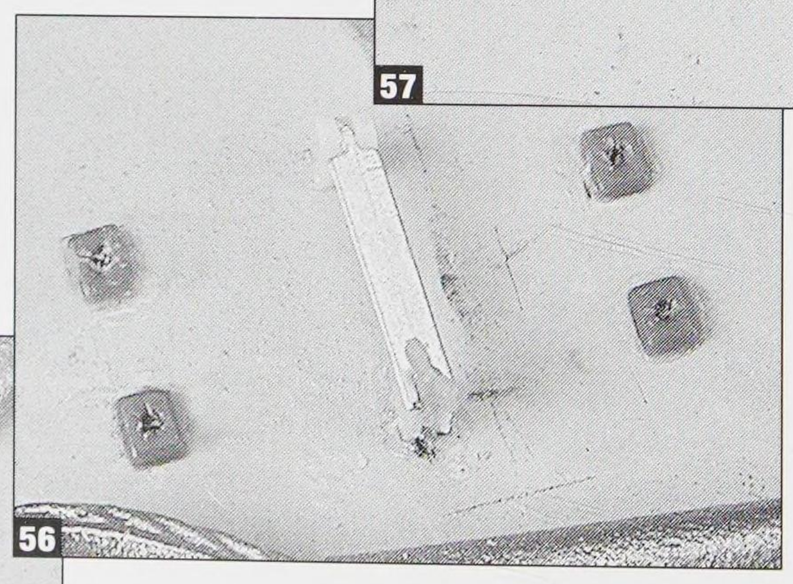
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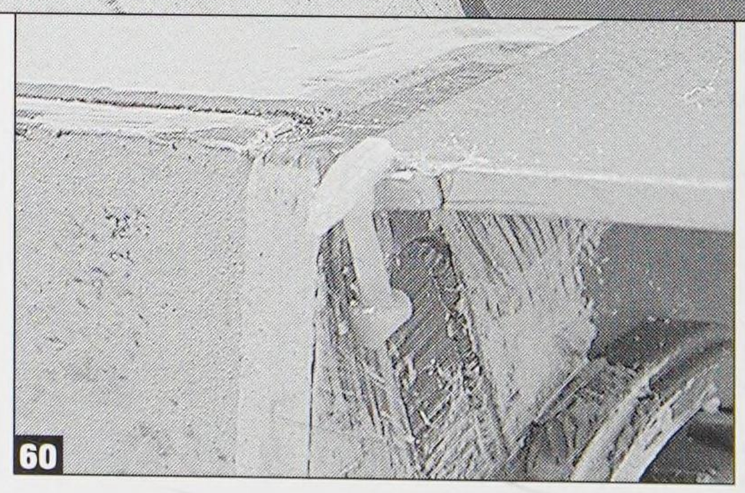
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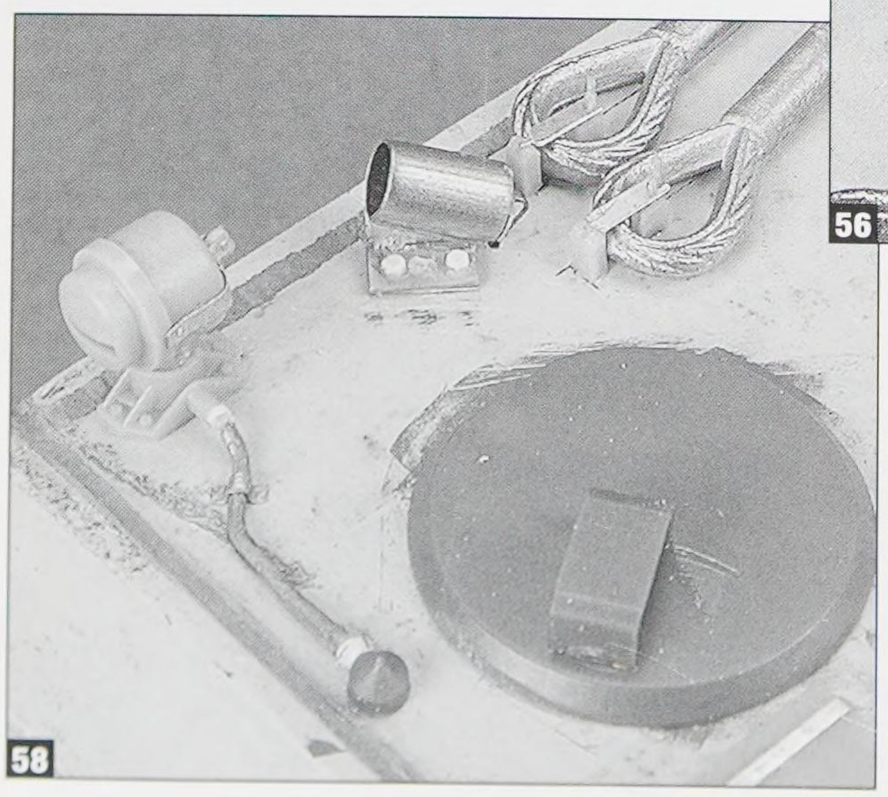
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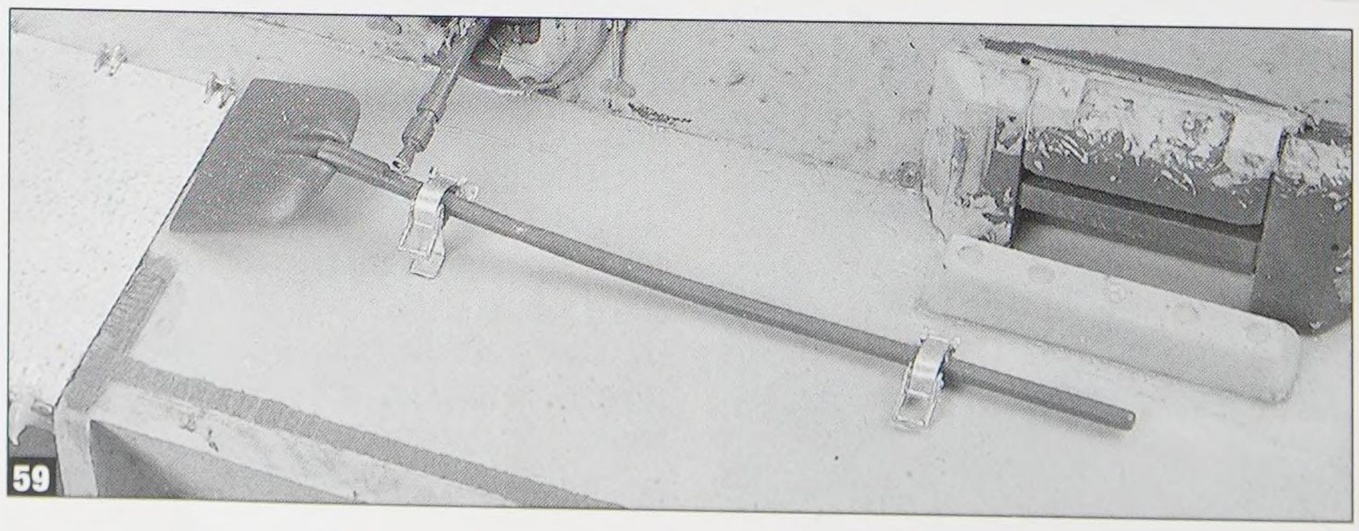
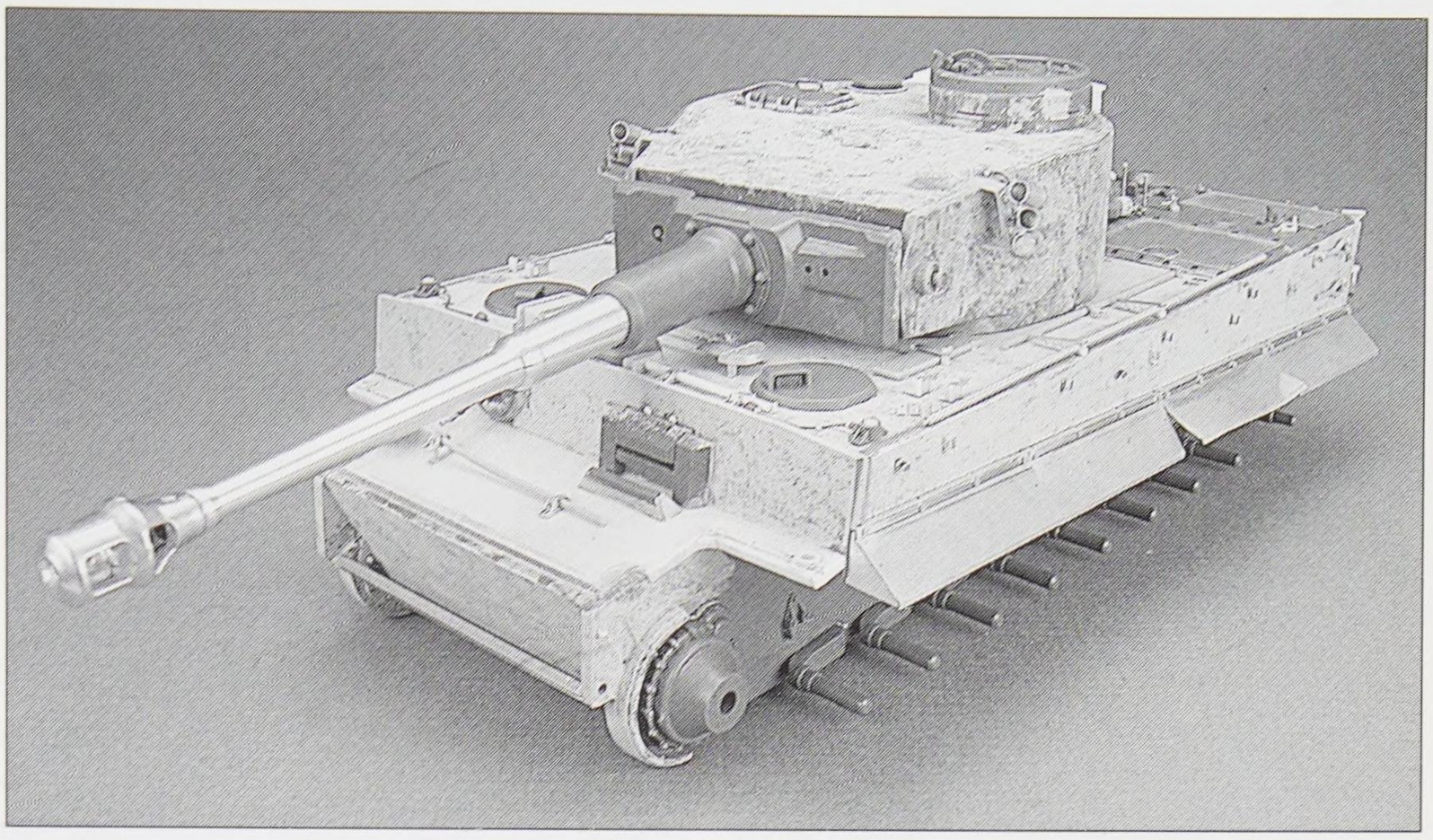

59

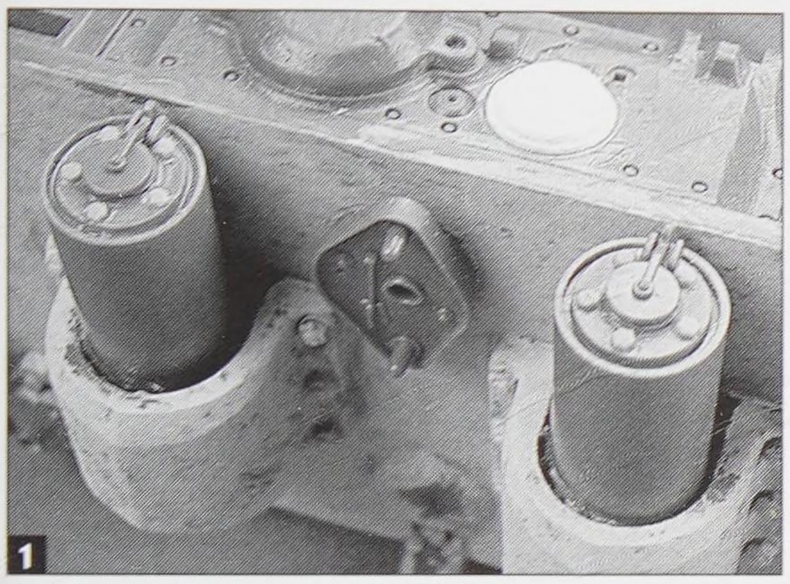
Panzerkampfwagen VI Ausf. H1 - Fgst. Nr. 250108

This tank dates from around the same time as the previous Tiger. However, it was issued to an army unit, the s.PzAbt. 503, rather than an SS one. Therefore, its exterior equipment differs quite a bit. Different units found different ways to deal with their own needs, as well as what they regarded as the vehicle's shortcomings. This is still an earlier production vehicle, manufactured in early 1943, before the introduction of the factory stowage bin.

The basic kit is the Tamiya "Frühe" production kit, number 35216. This kit includes lots of extra stuff, like S-mines, Feifel gear (early and late) and two types of drive sprockets. Because of all the extra stuff, this is the most convenient kit to use for this period.

The back seemed a good place to get started, so here goes. Unique to this kit is the rear exhausts with the flapper, but already containing holes for the top cover. That styrene flapper is a real bonus; the photo-etch items are a genuine pain. Because

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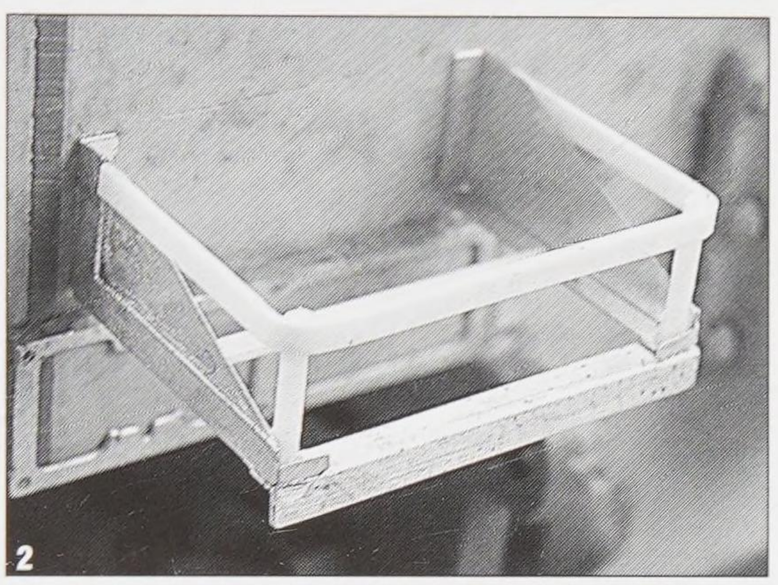
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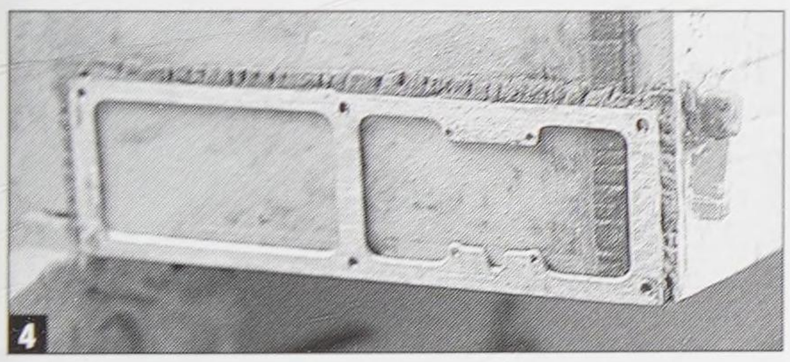
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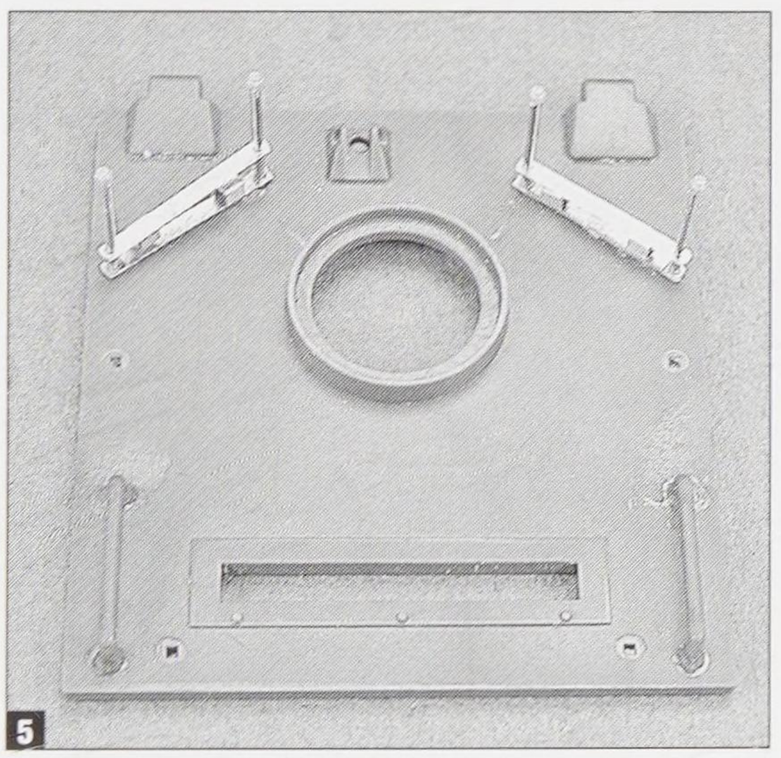
there are holes present for the cover, they need to be plugged with Grandt Line hex nuts (**photo 1**). Also seen in photo 1 is the new filler cap on the top deck.

Many photos of 503 Tigers show unusual stowage in place of the track tool stowage box. This ranges from jerrycan racks to custom-made stowage boxes. Throughout this project, I referred to several photos of a specific vehicle from the 3rd company, 323. This particular tank had its track tool box storage rack modified into a jerrycan holder. Using the reference photos as a guide, I modified the Aber etched parts with Evergreen plastic rod and strip as shown in **photo 2**. After everything was painted and weathered, I used the excellent Tamiya jerrycans to fill the rack (**photo 3**).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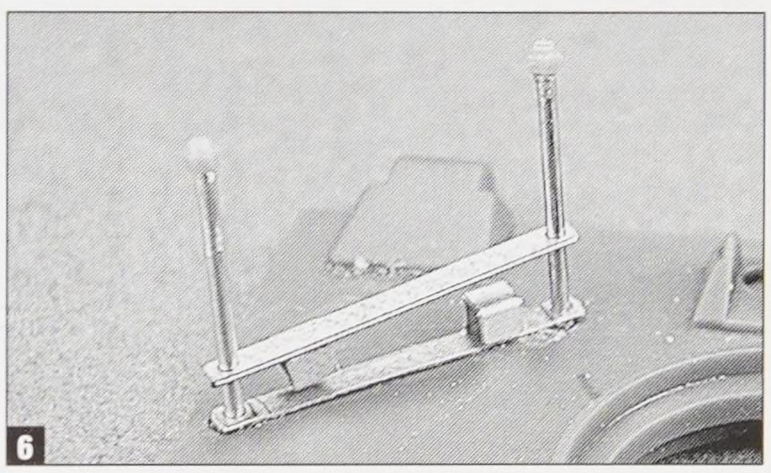
This tank only had portions of its fender system in place. It is missing its rear fenders completely, so I detailed the frames with putty weld beads as shown in **photo 4**. Unfortunately, this area is mostly invisible on the finished model, due to heavy weathering.

The reference photos also show that this Tiger had the Feifel hardware in place, but not the array itself. This Tiger also predates the introduction of the engine hatch stop latches, so they were carefully scraped off. In **photo 5** I've removed them and added the forward guide braces using Royal parts. Without the tubes running through them, the guides would collapse in on themselves. The side braces are brass rods and they are each capped with Grandt Line nuts. **Photo 6** is a closer perspective of the finished hardware.

To detail the empty Feifel trunk, I trimmed the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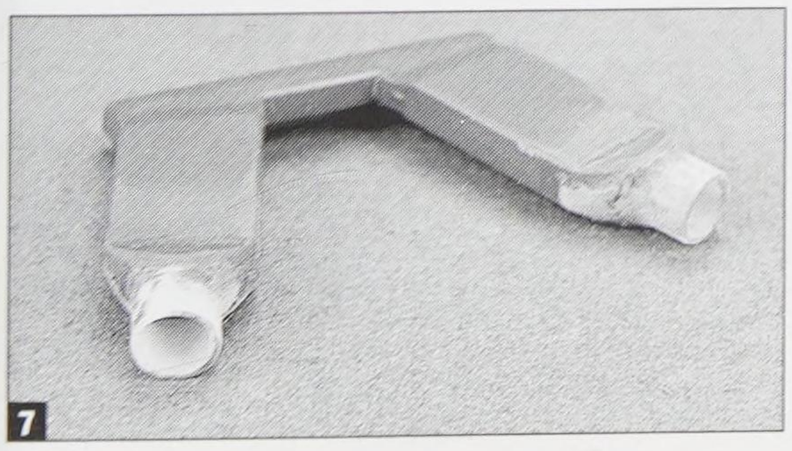
ends off of the Tamiya part and added an appropriate size Evergreen styrene tube. Before installation, the tube walls were thinned down with a knife and a round file. The sections were then attached to the base using liquid glue and then feathered into the trunk using putty. All this can be seen in **photo 7**.

Once the Feifel trunk had dried and I was satisfied that any gaps were closed, I added Aber super mini clasps (now available as set 35 A93) and installed it on the deck (**photo 8**).

Tiger 323 only had fenders installed on the left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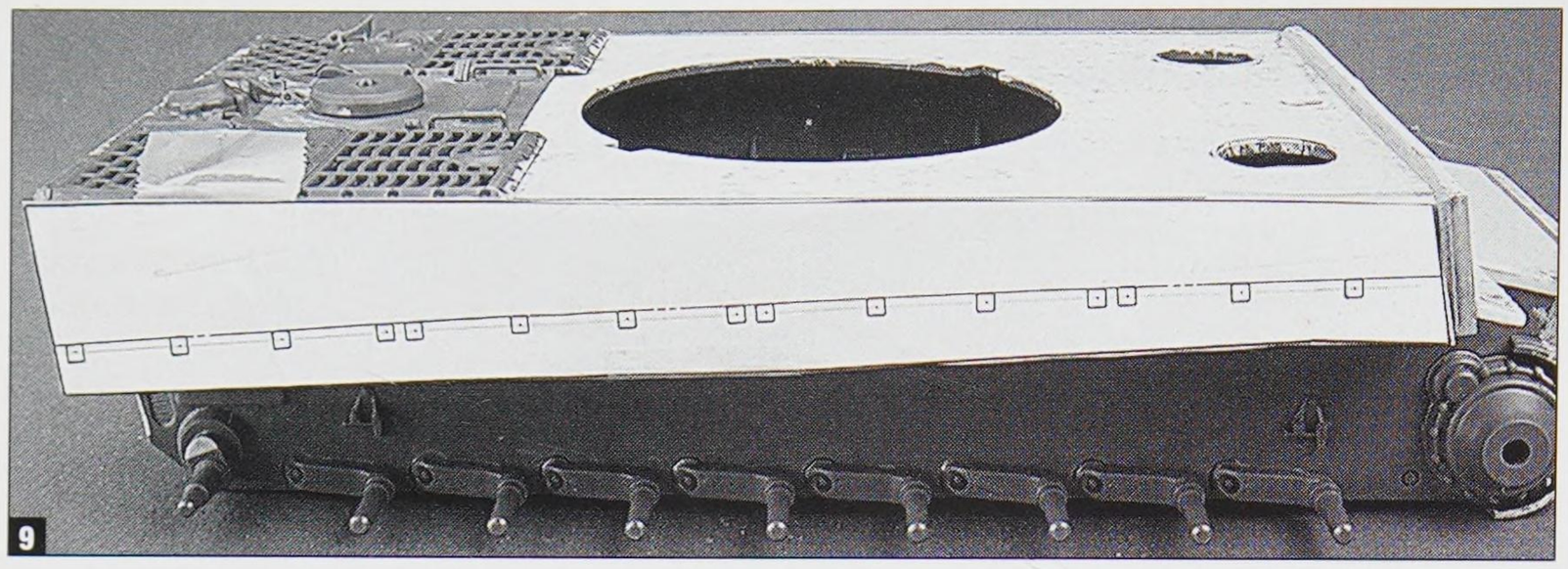
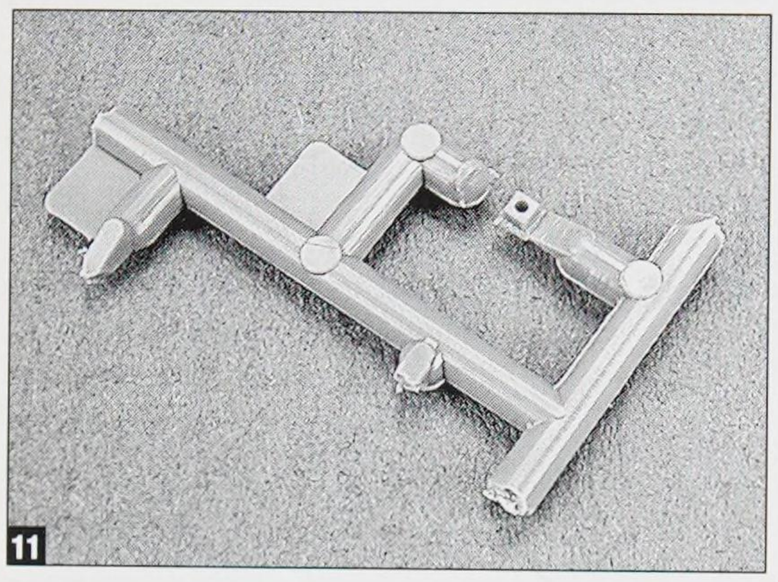
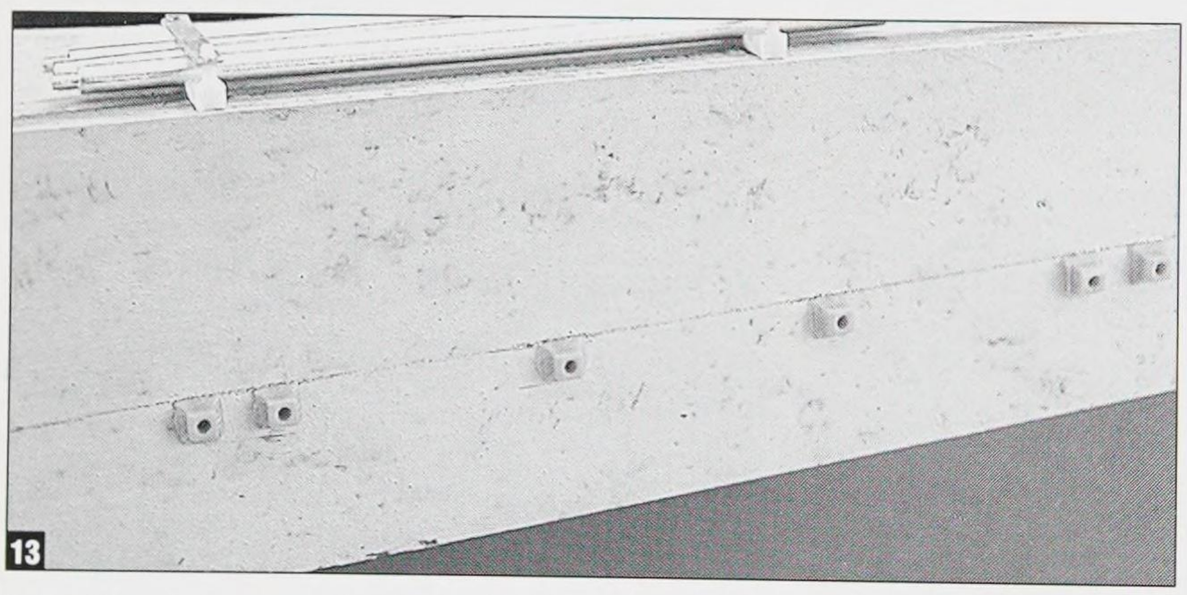


side of the vehicle. Both the front and rear fenders were either removed or sheared away in combat. To locate the empty bolts for the right side of the tank, I used the handy-dandy template provided in the ModelKasten Tiger transport tracks, SK-3. In addition to the tracks, this set also includes a full set (actually about twenty full sets) of square fender





bolts. The styrene castings even include nifty little weld beads.

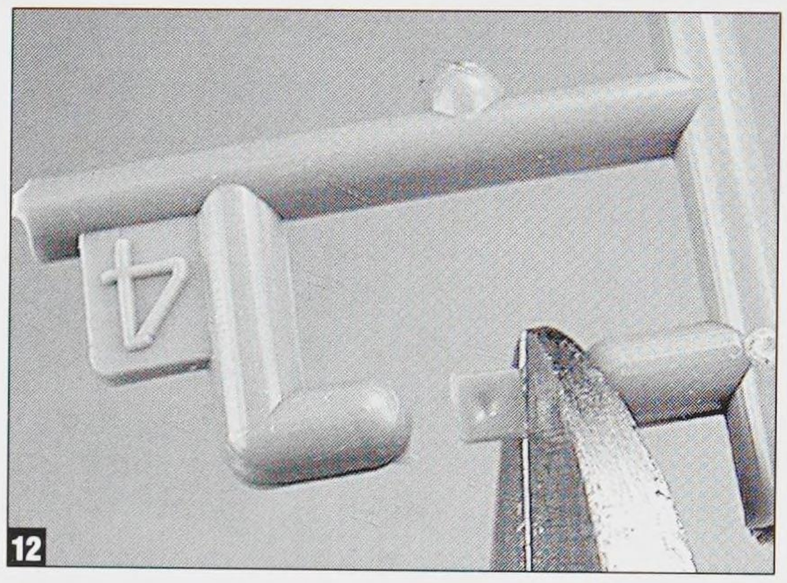
The paper template was first trimmed out with an X-acto blade and carefully taped to the hull as shown in **photo 9**. A thin pencil line was drawn with a ruler through the center of each square to use as a guide for centering the nuts. Then, using the sharp end of my dividers, I carefully pierced the template to make an impression in the hull (**photo 10**). I also marked out the top line of the nuts using this template. I made a small mark at the front and rear of the hull, then drew it in with a pencil after removing the template.

The nut castings are pretty small and they could be easily missed on their sprue (**photo 11**). There is a trick to getting them off the sprue without extra clean up (I ruined plenty of them figuring this out). First, trim away any extra sprue around the casting. Then, flip it over and using a pair of flush cut nippers (Tamiya, in this case), clip the part off the sprue. It's much easier to keep the casting square this way. This is being demonstrated in **photo 12**.

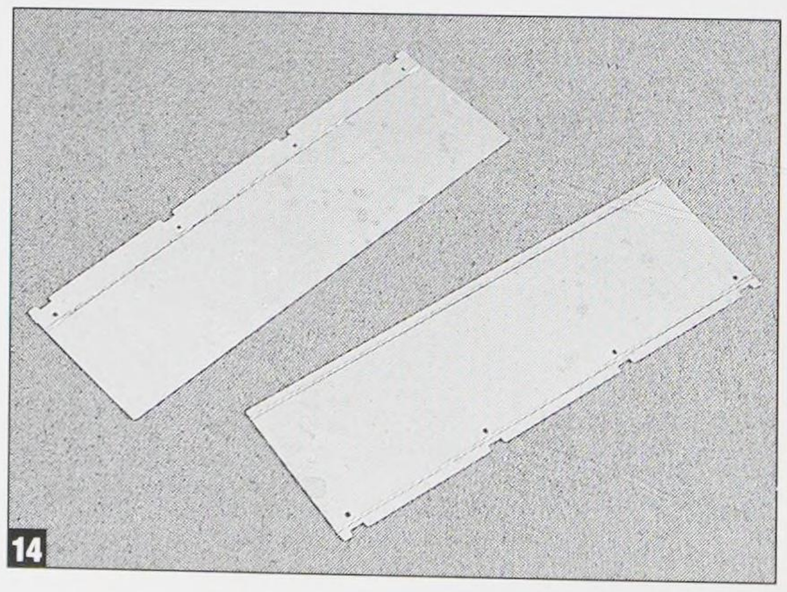
All this and my top line pencil mark can be seen in **photo 13**.

Fender me this

Since I haven't covered it up to this point, I'll discuss the construction of the Aber fenders (if you don't mind). These are terrific items and represent the metal fenders very accurately. However, they can be buggers to work with without the proper tools. The basic parts are seen laid out in **photo 14**.

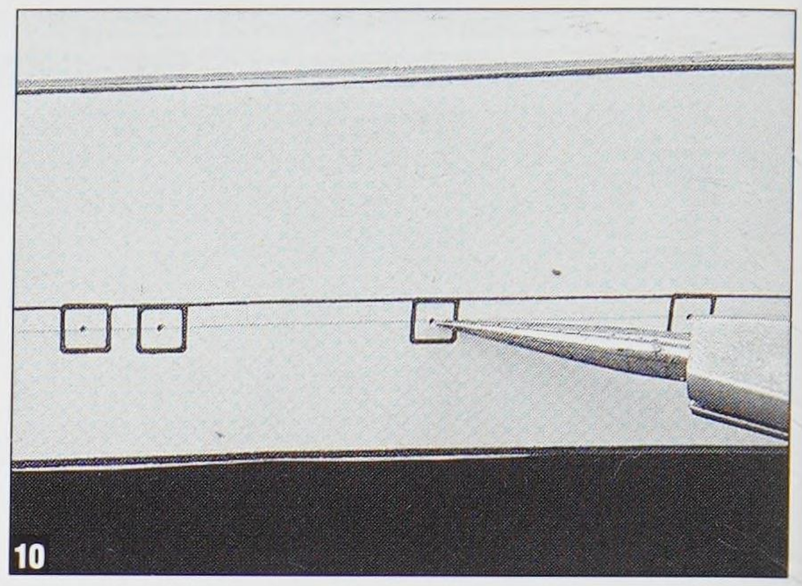


The same part is illustrated from the top and the bottom. There are three bends to make and they must be made in the same order to avoid messing them up. The first bend is the most important, because this is what places the edge of the panel at a precise 90 degree angle to the hull.



To get all this straight and square, I used a miniature metal brake called the "Hold & Fold." This is similar to what air-conditioning companies use to bend metal for ductwork (only much smaller, of course). This brake allows for the precise bending and squaring of miniature metal work. This particular tool can be hard to find, but another version called the "Etch-Mate" is now widely available.

Anyway—using the outside edge of the brake and its square edge, I make the first bend in **photo 15**.

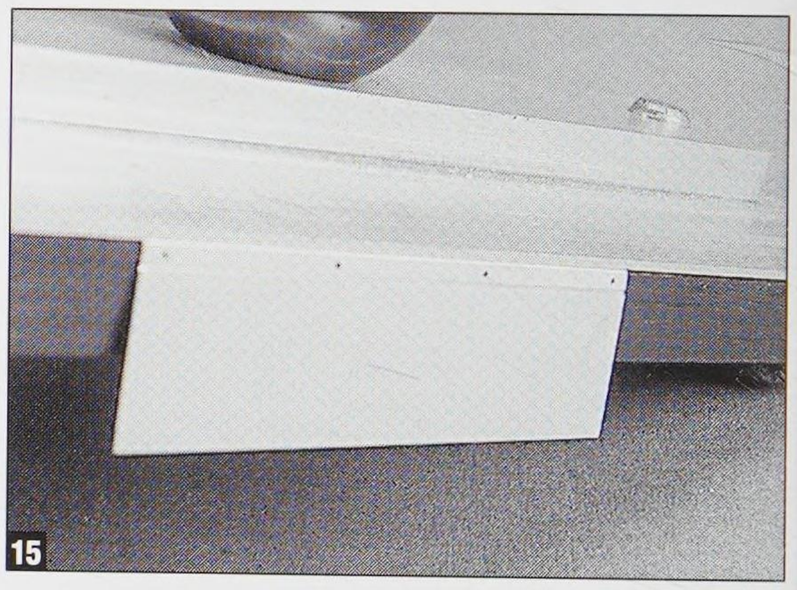


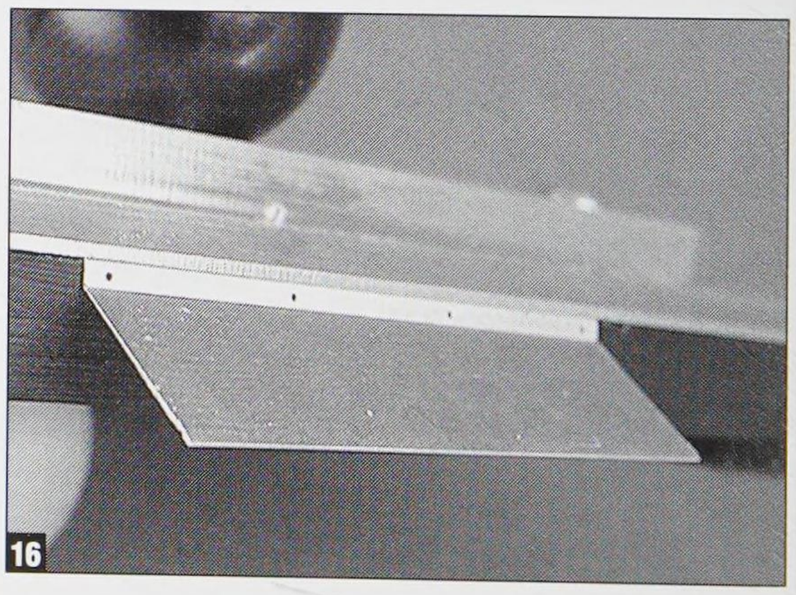
Note the direction the part is facing when the bend is made.

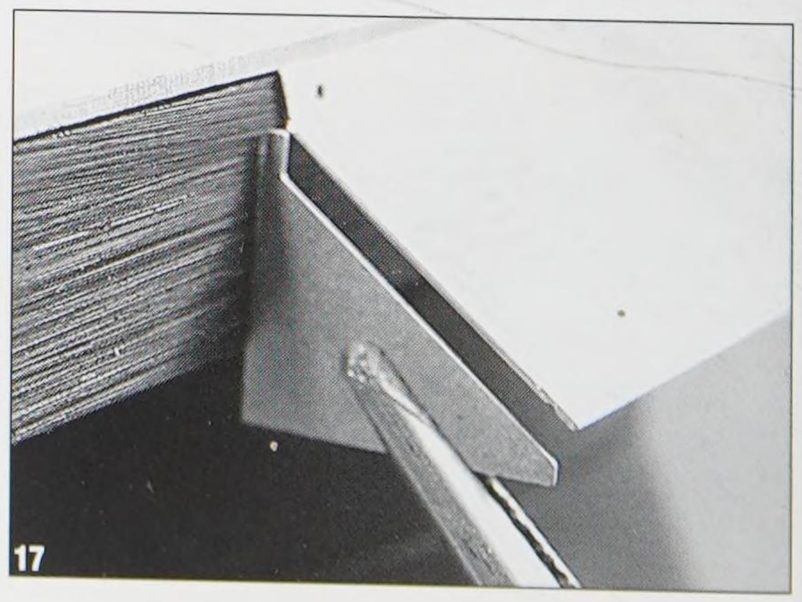
The second bend is shown in **photo 16** and this bend is simply made by moving the part up with my fingers. The gap in the part closes as you bend it. This bend is also fairly critical, as all the panels must match. To gauge the proper angle, I use one of the end pieces placed against the brake (**photo 17**).

The last bend is the easiest. Simply flip the part over and bend the lip until it is parallel with the panel that is pierced for the fasteners.

I installed the finished panels over a strip of plastic for strength. The location of this strip is the top pencil line marked out using the ModelKasten template. If a thin piece of plastic strip is used, it will be all but invisible when complete. The finished fenders were detailed with Grandt Line nuts. The finished installation is seen is **photo 18**. I have



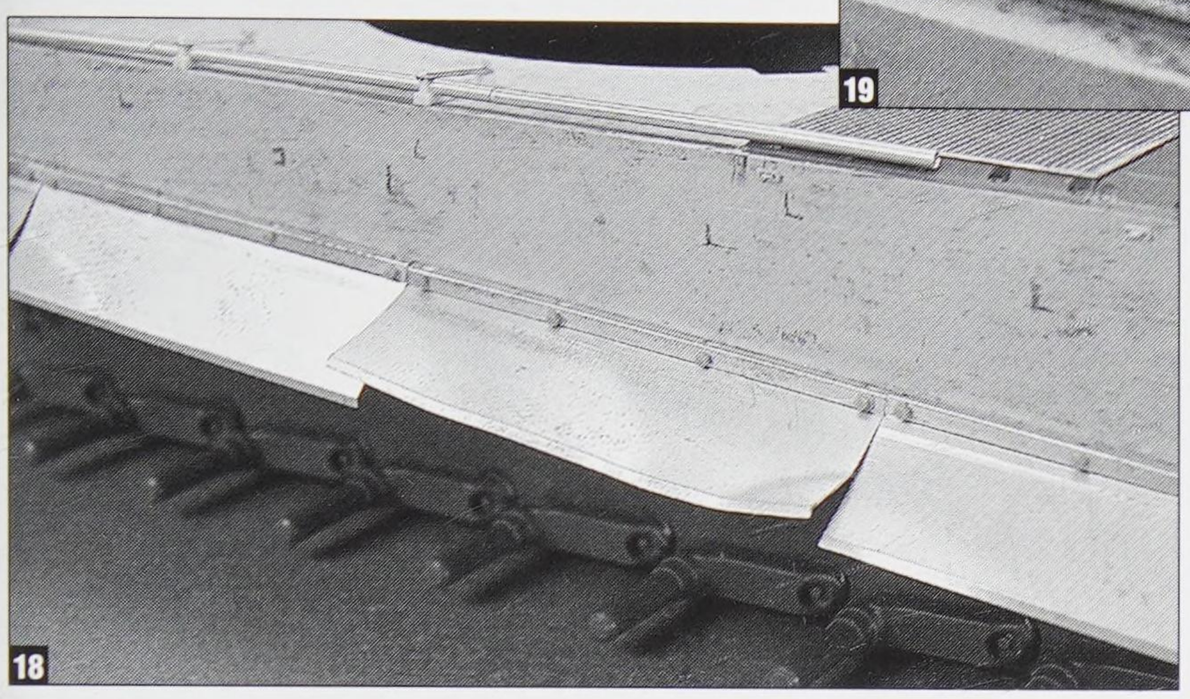




also roughed up the fenders in this shot. The "plastic strip" method holds the panels firmly to the hull and the damage was simply made by manipulating the part with my fingers.

On deck and up front

There are a few wacky things going on up on the deck of 323. The tow cables are not installed in their brackets; rather they are draped over the deck and attached to the front and rear tow shackles. To represent the empty brackets, I used more Royal parts,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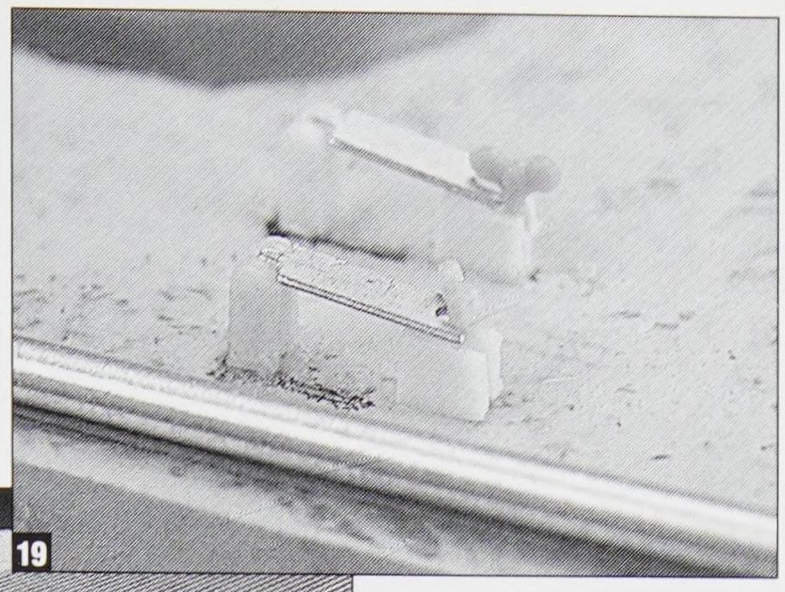
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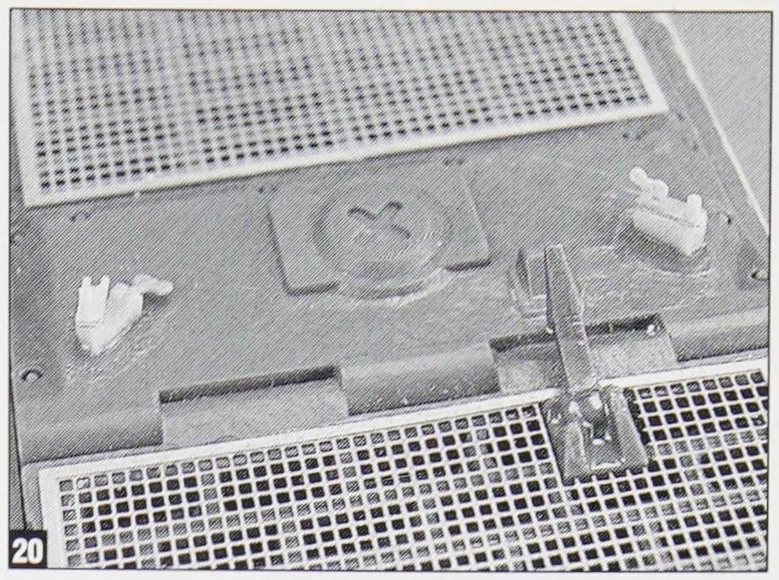
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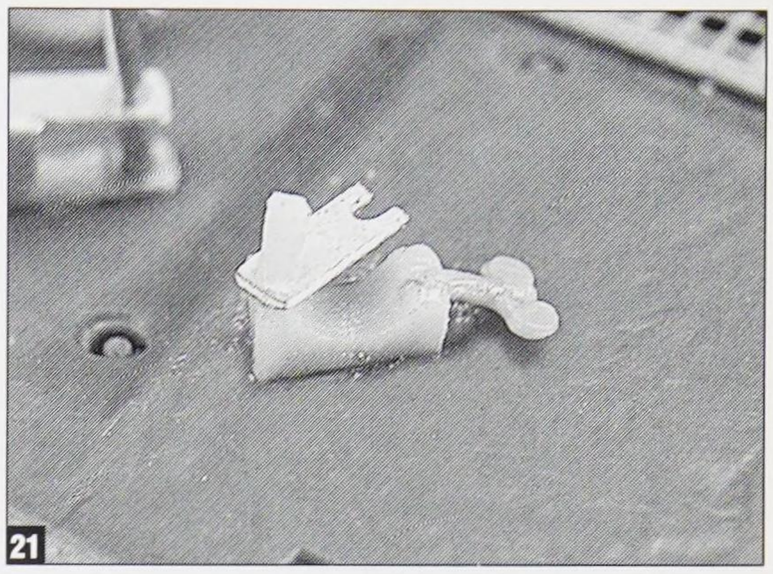
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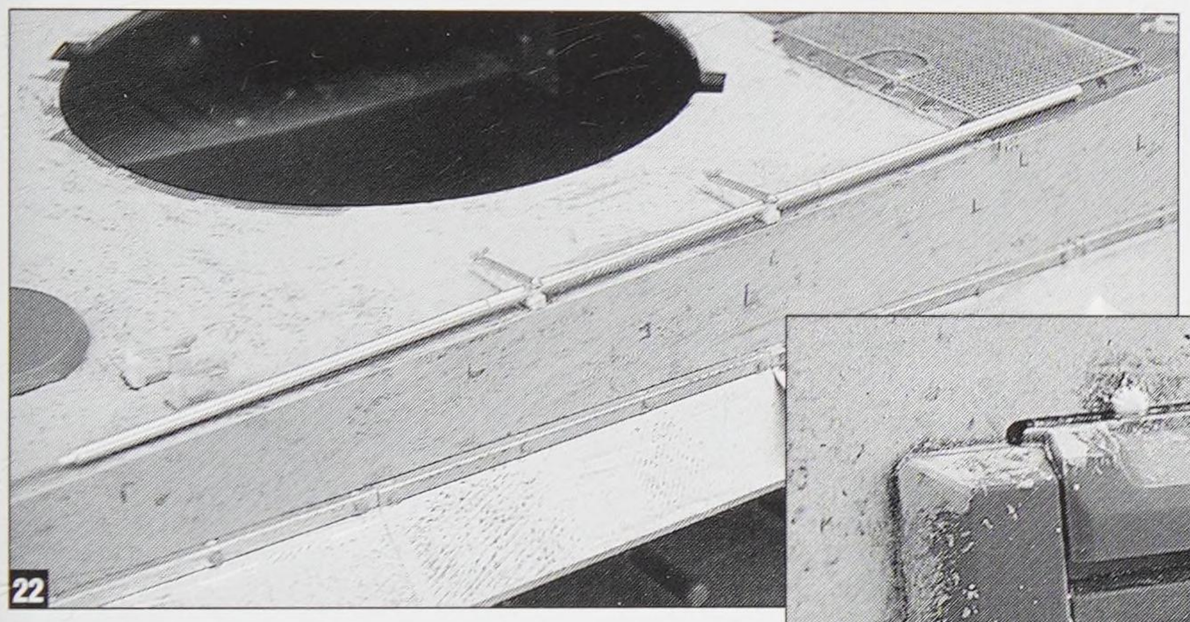
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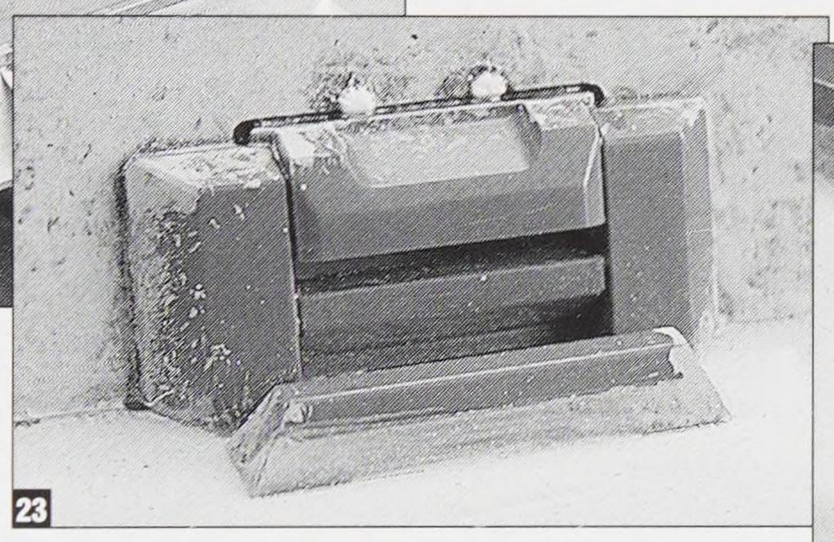
making sure to angle down the top of the bracket to make it look empty (**photo 19**). The rear clamps are shown in disarray just for variety. Two of them can be seen in **photo 20** and a close-up look is provided in **photo 21**. ↗

Another 323 oddity is a single, assembled gun-cleaning rod installed in the left-hand brackets. These are from the Elephant set 35510. They were simply glued together and attached to the nearly empty rack (**photo 22**).

To represent the welded apertures of the K.F.F. 2 driver's periscope, I used two, small styrene disks. I installed them over the driver's visor using liquid glue and scribed the edge with a knife while they were still soft from the glue (**photo 23**). ↓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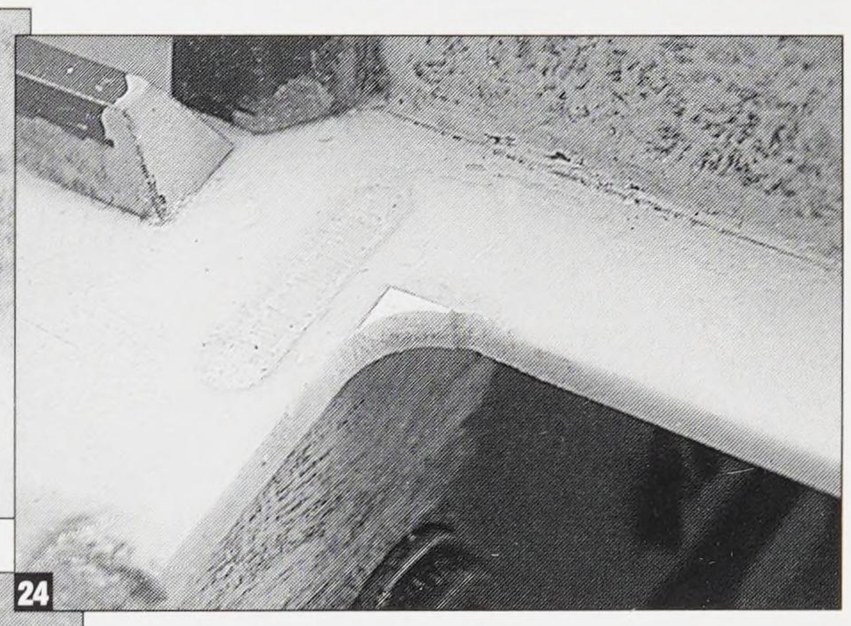
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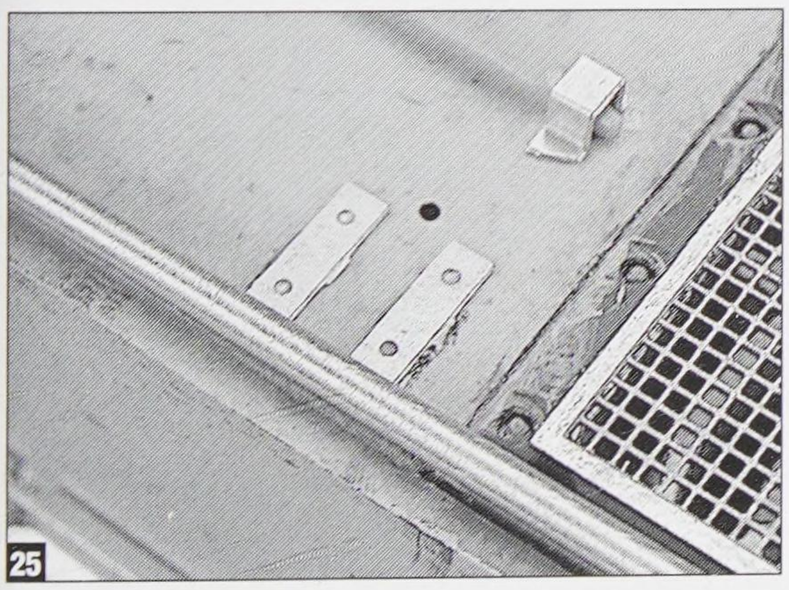
themselves. I used Elephant parts to represent all the plates around the hull. In hindsight, I could have just left the original Tamiya representations, as they are not all that bad (most of the upper hull detailing was removed to texture the top deck). The holes for the leads were also drilled out and the left rear location can be seen in **photo 25**.

Royal saved me from more fiddly photo-etch with a couple of great resin pieces for the rear corner of the hull. These parts, which represent the extended S-mine bases, are just glued to the hull. The only modification is to remove the bolt on the rectangular piece and create a hole in its place. This bolt would not be present if the launcher was not installed. All this is seen in **photo 26**.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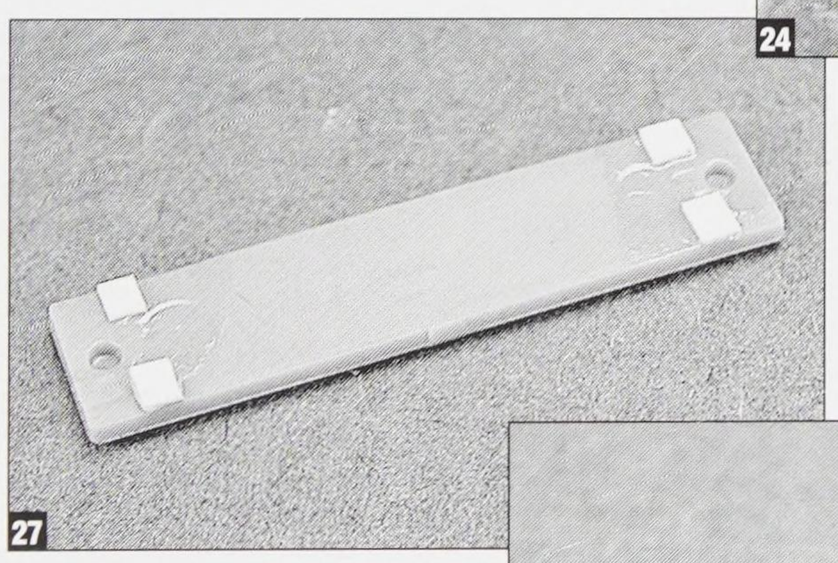
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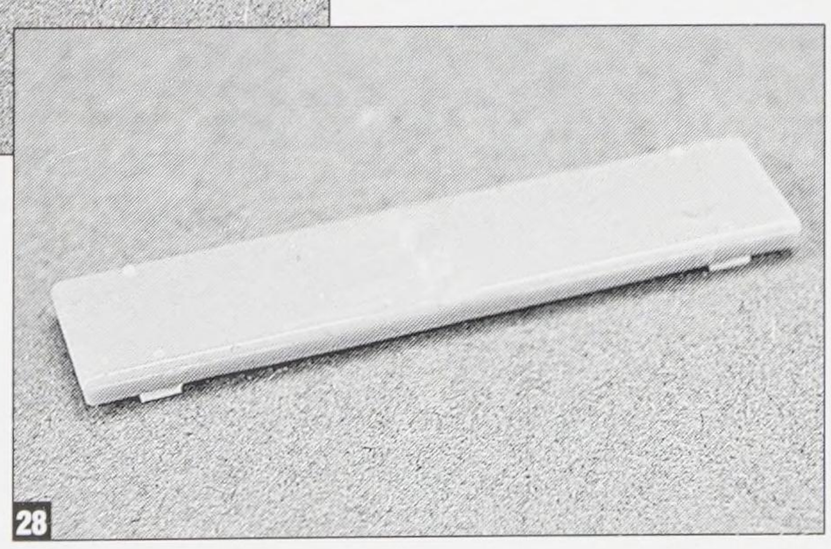
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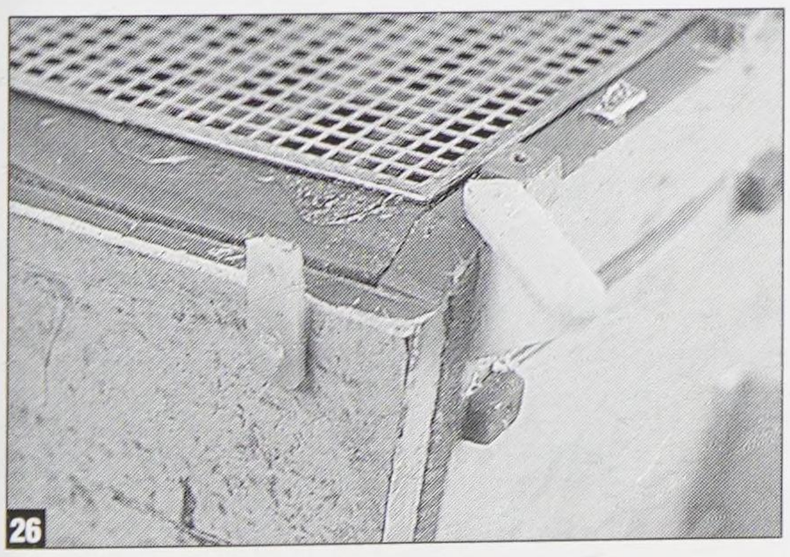
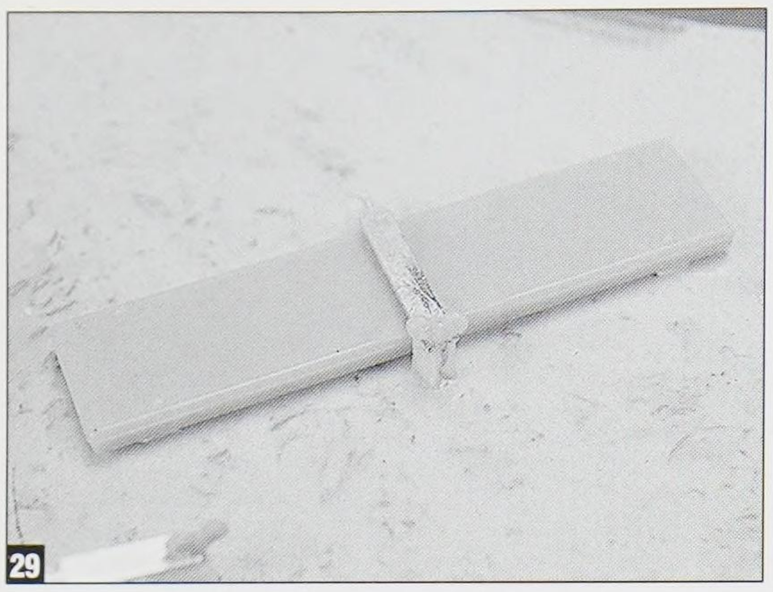

26

I used the Tank Workshop resin replacement part for the front of the hull. However, since the fenders were not going to be installed, it was necessary to fix one minor detail. The interior edge of the plate should be rounded and not squared. This was plugged with thick styrene and sanded to the shape seen in **photo 24**.

Luckily for me this Tiger had the full array of S-mine hardware installed, but not the launchers actually fits into four small bolts on the deck that raise it slightly (also see page 116). Four small chunks of styrene were added to the bottom of the Tamiya part in **photos 27 & 28**. The finished part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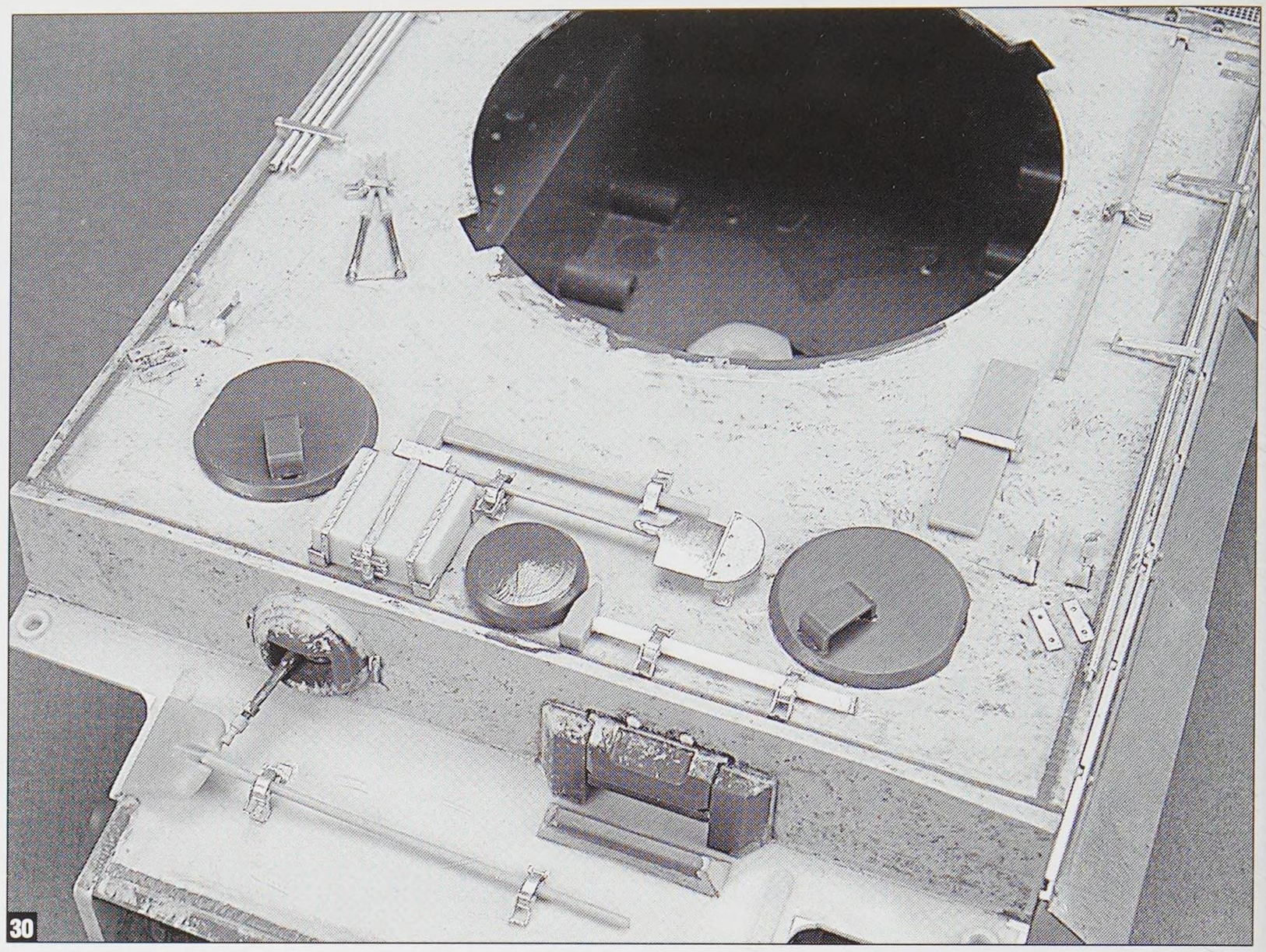
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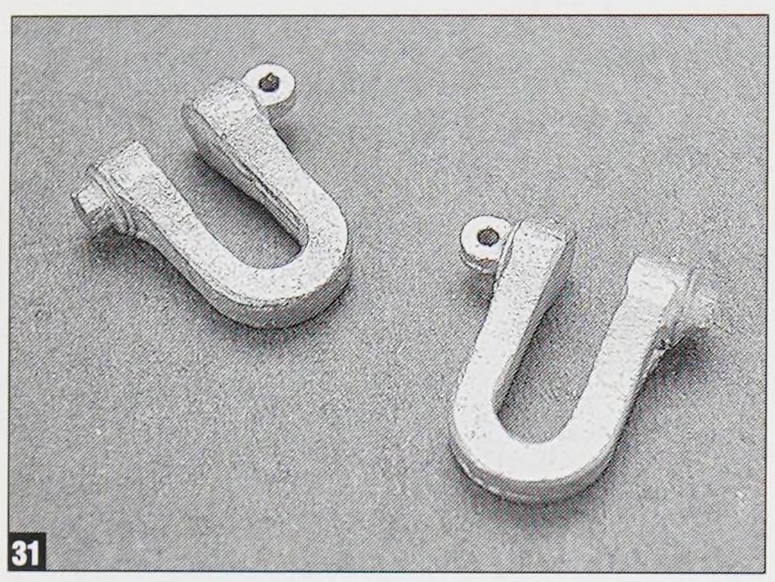
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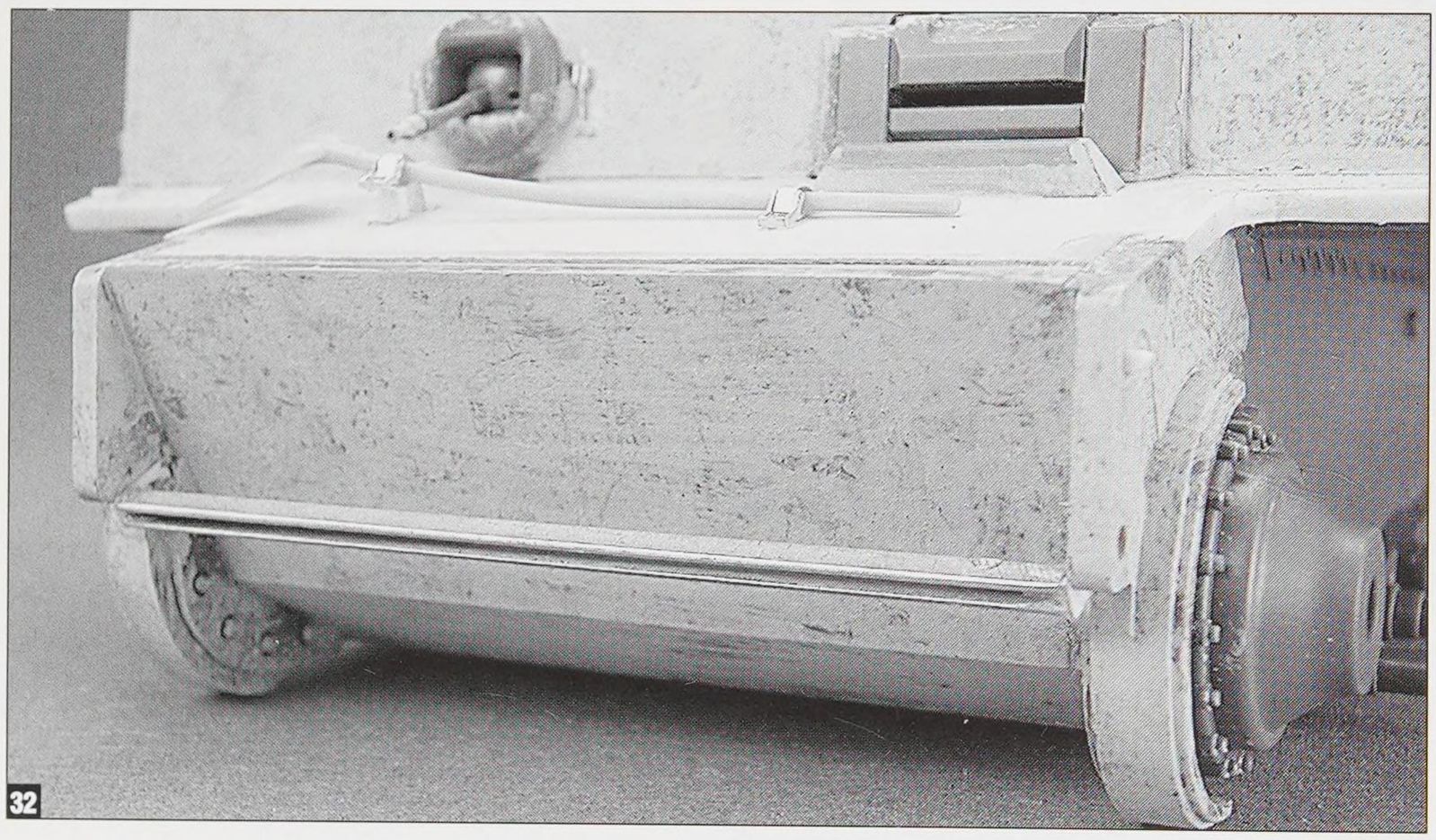
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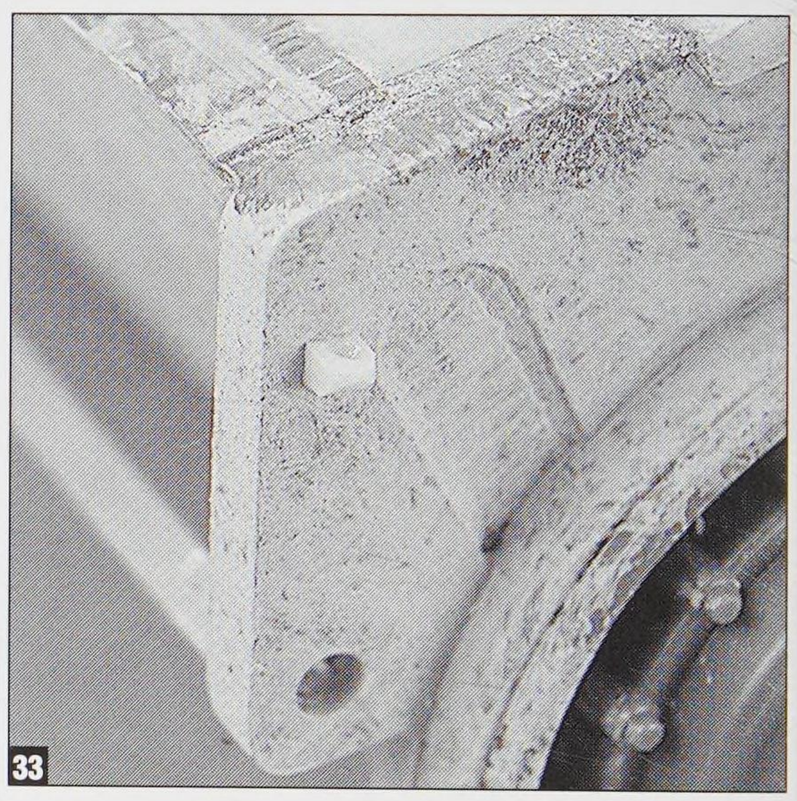
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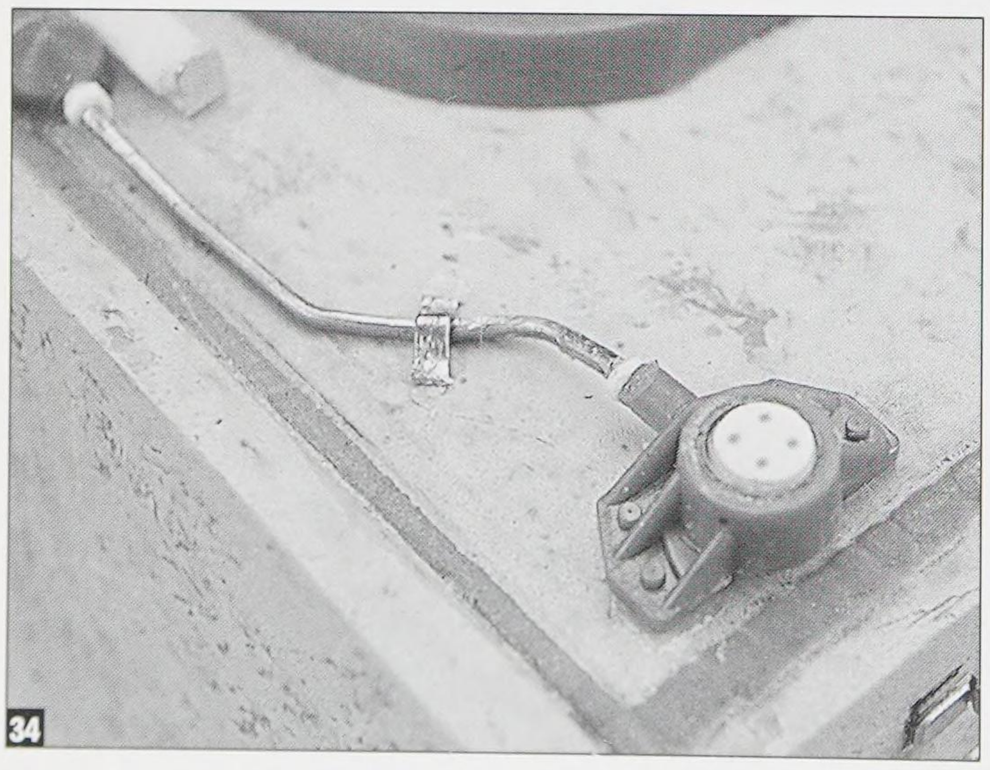
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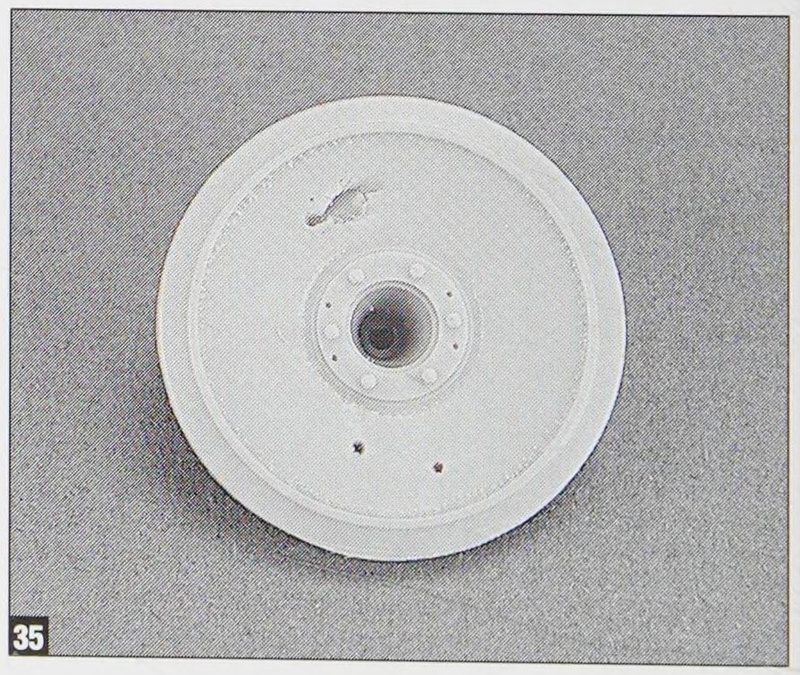

35

I. Perhaps the nicest things in the set are the flat, early style tow shackles. These are very well rendered and even have the pull ring for the pin. This is dimpled on the casting and I have drilled them out in **photo 31**.

Careful study of the reference photos of 323 reveals the installation of a spare track bar on the front hull. I made this from brass c-channel with styrene strips on the ends. The fit was a bit tricky, as the real bar appears to interfere just slightly with the travel of the tow shackles. Fitting this in was probably a lot easier when it was 35 times bigger! The finished bar is shown in **photo 32**.

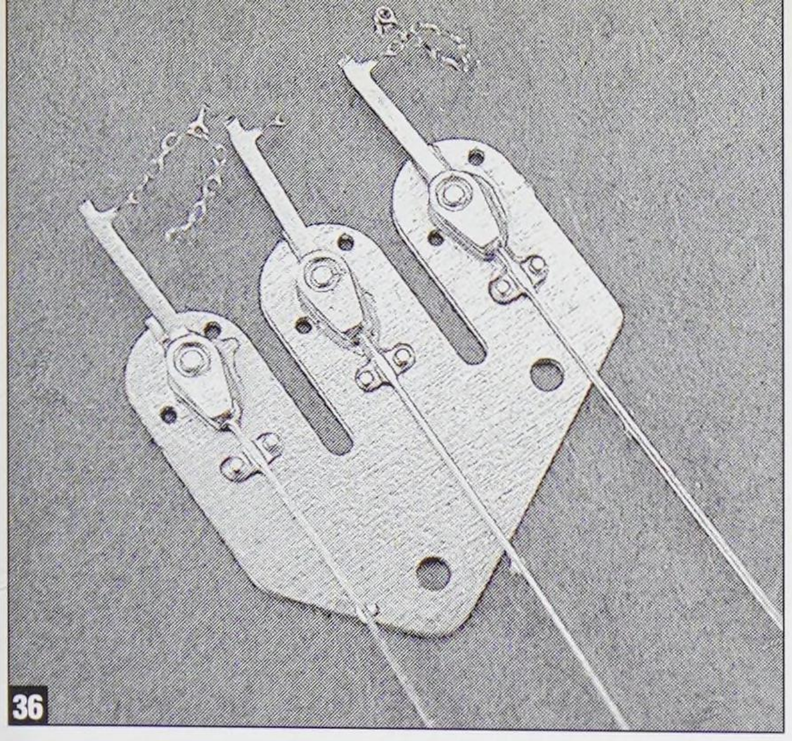
Even though the front fenders are sheared away, I'm sure some evidence of the front clamps remained. I used the base of the Royal resin clamp (which had conveniently broken) and drilled out the top in **photo 33**. It's not shown here, but holes were also drilled along the front edge of the plate where the fender hinge pins would have been located.

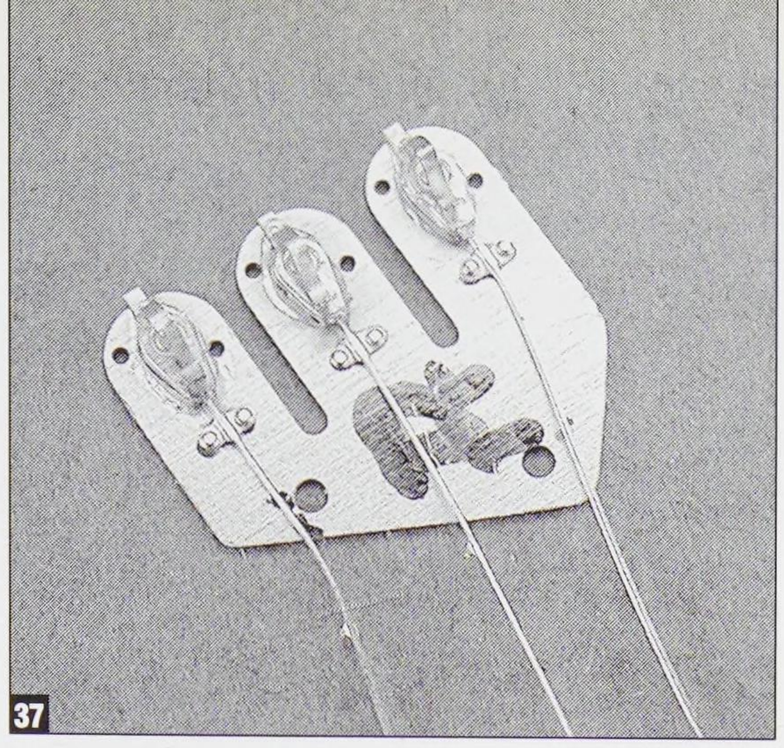
is seen installed with its Royal clamps in **photo 29**. All of the completed tool stowage can be seen in **photo 30**.

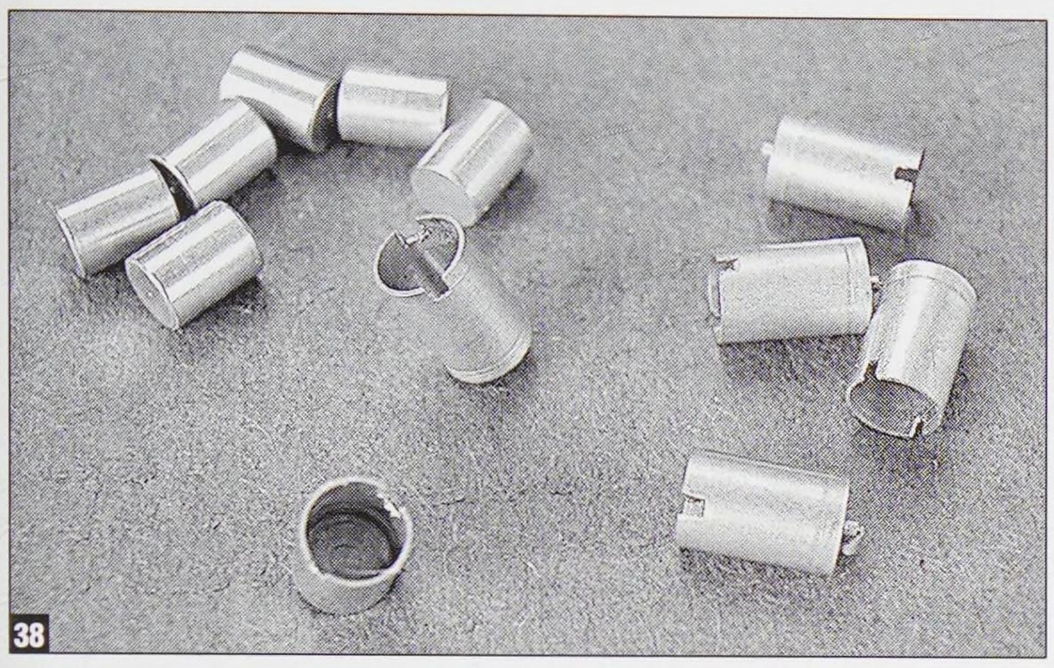
MR Models of Germany makes an excellent resin and white metal detail set for the early Tiger

When the top-mounted Bosch lights were removed, the socket in the base was revealed. The reference photos showed that this was the case, so I plopped in a disk punched from my punch and die set. Four small holes were "drilled" in the top of the disk with the point of an X-acto blade and the results are seen in **photo 34**.

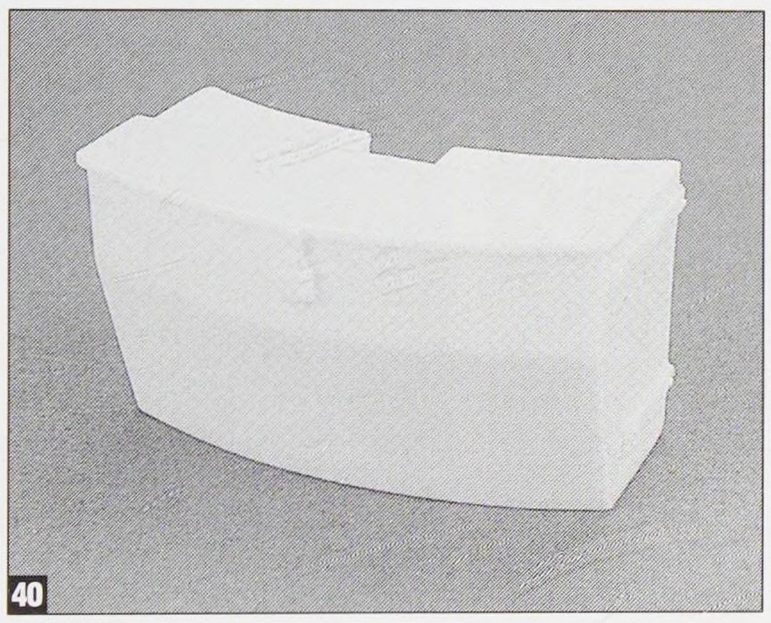
Another item added from the MR Models set is a damaged outside roadwheel. The bare-naked casting can be seen in **photo 35**.







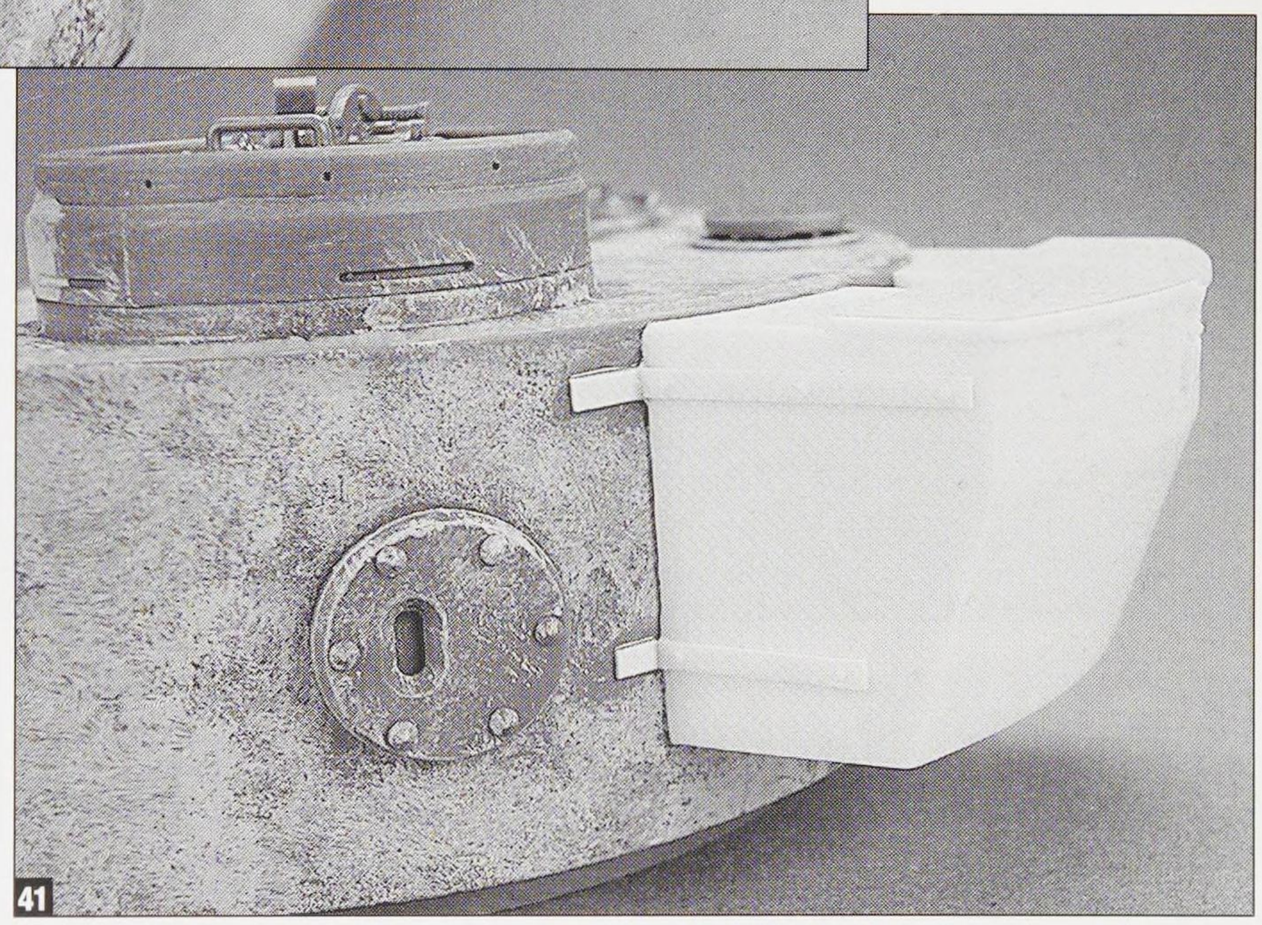
Since this project started (back in the late fifties), Aber has released a super-duper version of their Tiger detailing set. This is reminiscent of their set for the 1/16th scale Tiger and includes tons of brass, along with cable and other goodies. One of the things included in the set is a really amazing mini-fret for the turret-mounted smoke launchers. The set looks pretty good and includes a more accurately sized base and properly shaped insulators with attached wires. Since this was going to be the last tank to have them in this book, I decided to give them a whirl.

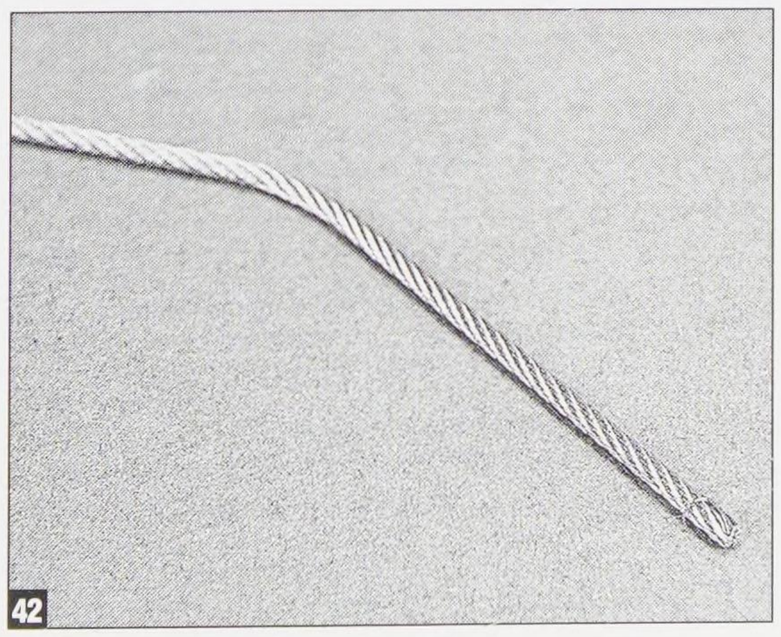


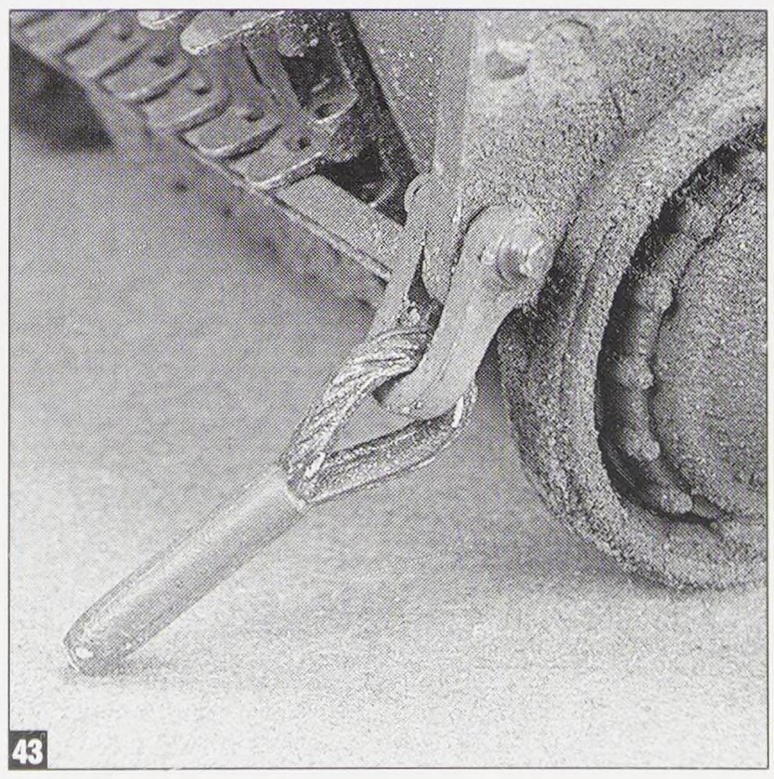
I have just added the insulators in **photo 36** and the clamps can be seen running off the top of the part. These ends are bent back in a c-shaped loop to form the clamp for the insulator. The extremely fine chain actually holds the insulator and keeps it from flapping around if it becomes disengaged from the clamp. Unfortunately, these ultra delicate etched parts fell away in the process of forming the clamps (**photo 37**).

To complete this extravagance, I used the beautifully tooled tubes found in the Model Point set 3551. These are very thin and are closed on the bottom, which makes them easier to glue to the base. The set also includes grenades to slip into the tubes. These and the tubes are seen in **photo 38**. The completed right hand launcher is seen in **photo 39**. Compare these photos with my more representational version on page 116.

Like some other units, the 503 produced their own version of the turret stowage bin before it began appearing on the production tank. Modeling Artisan Mori, a small Japanese company, produces a great little bin (MGP01) and it fit the bill perfectly. The basic part can be seen in **photo 40**. It was mounted to the turret using plastic strip that matched the size of the brackets on the resin part. The resin box was attached with super glue, but liquid glue was used on the brackets. ↑







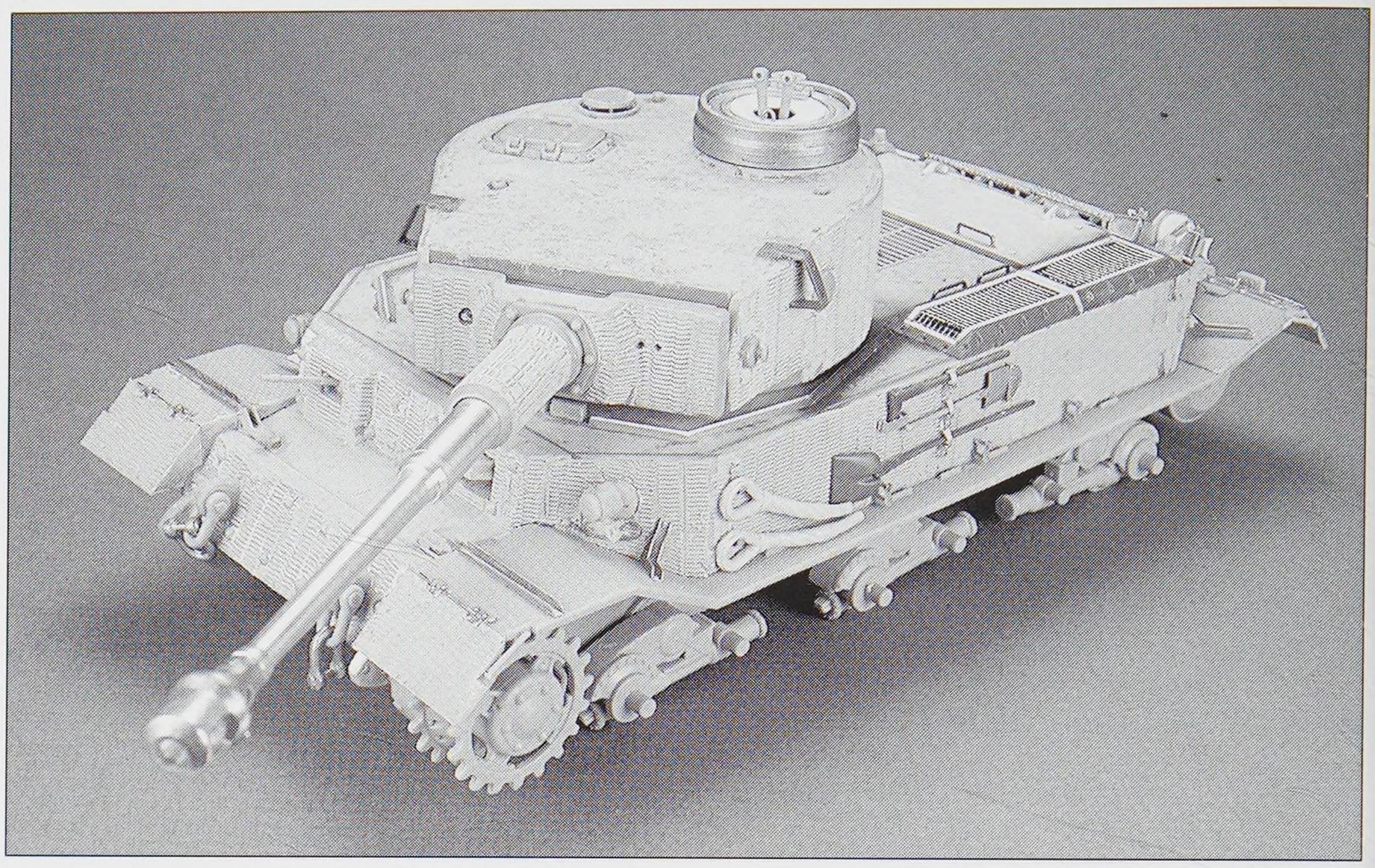
This helped to fill any gaps between the plastic and the resin (**photo 41**).

As I mentioned at the top, the reference photos show that 323 stowed its tow cables attached to the front and rear shackles. I had originally planned to use pre-colored and weathered cable, but it turned out to be too short. Either way, because of the shackles, this all had to be done after painting and weathering was complete.

I used New Connection double braided cables. Although these were somewhat stiff, there are still pliable enough to arrange on the deck. They will not lie down without glue and they must be bent and painted prior to installation. This is rather nerve racking, because of glue stains. **Photo 42** shows one of two bends for each cable. The bends were placed where the cables pass over the front and rear deck. The cable heads were painted and weathered, then attached to the tank prior to weathering (**photo 43**).

Although it's not illustrated here, the cables were painted and weathered off the model, then carefully attached to the heads and tacked to the deck with superglue.

Panzerkampfwagen VI (P) - Fgst. Nr. 150013



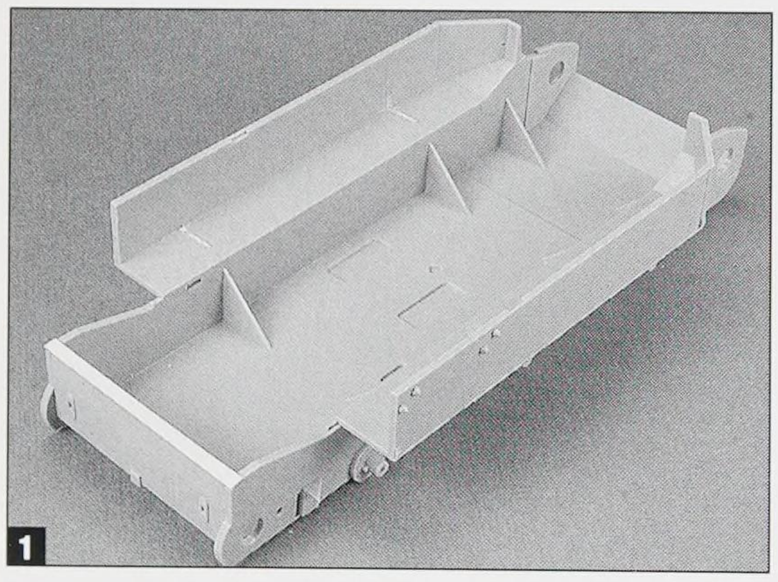
The Tiger (P) is the bastard stepchild of the Tiger family. Although it's a true variant, only one (as far as I know) was fielded as a combat vehicle and this is what qualifies it to appear in this book. The story of this tank does not appear in the historical section, so let me give you the short version (sort of) here.

Work on the production of a heavy tank designed by Porsche went back to 1939 and subsequent work led to the VK 30.01, or Porsche Type 100, and eventually to the VK 45.01 or Tiger (P). The final version of the 45.01 was an usual vehicle, utilizing twin engines linked to generators that in turn powered dual electric motors. Although these vehicles were produced in limited numbers, they were never fielded in their original form. There was great enthusiasm for this vehicle within German government circles, but its testing and development phase was plagued with problems. According to the Jentz & Doyle report on the Tiger (P), one session in June of 1942 resulted in the failure of both engines after only 100 kilometers. During this time, the two engines consumed 140 liters of oil! In spite of this, trials and even production (not rising above 13) continued until the plug was finally pulled in November 1942. Optimism remained high until late in the game. Rommel was even promised 40 vehicles for the North African bound Schwere Abteilung 501.

I've always thought this vehicle was interesting looking, basically coming off as a chopped off Elephant with a turret. The suspension and lower hull were the same as that of the Elephant and early versions of the turret were similar to the later Tiger I turrets, but with a single sloping panel from back to front. The early turret roof also had a raised center section for the gun. The last few produced had a turret nearly identical to the Tiger I.

Most of us are probably familiar with the epilogue. Components and hulls were eventually used to construct 91 tanks as Panzerjäger, perhaps better known as the Ferdinand and later, the Elephant. These components were also used to create the Bergepanzer IV and Ramm Tiger. All the new vehicles used Maybach HL 120 engines.

The hero of our story comes with a fairly extensive résumé. It was actually the very last of the original Tiger Ps to be completed by the manufacturer, Nibelungenwerk (as a Befehlswagen), in the early fall of 1942. Thanks to Jentz's research, we also know its chassis number: 150013. After about a year of testing and other mucking about, the tank was sent back to Nibelungenwerk where it underwent an engine change and other modifications. Dual Maybach water-cooled engines were added and the vehicle was generally brought up to Elephant standard. This meant the addition of a similar frontal armor and a full coating of zimmerit. This vehicle, with a full suite of external equipment and markings (and still set-up as a Befehlswagen) was sent to the Eastern Front to join Schwere Panzerjäger Abteilung 653 in April of 1944, where it saw combat until it was lost in action in July of 1944. This makes it the only Tiger P to see combat.



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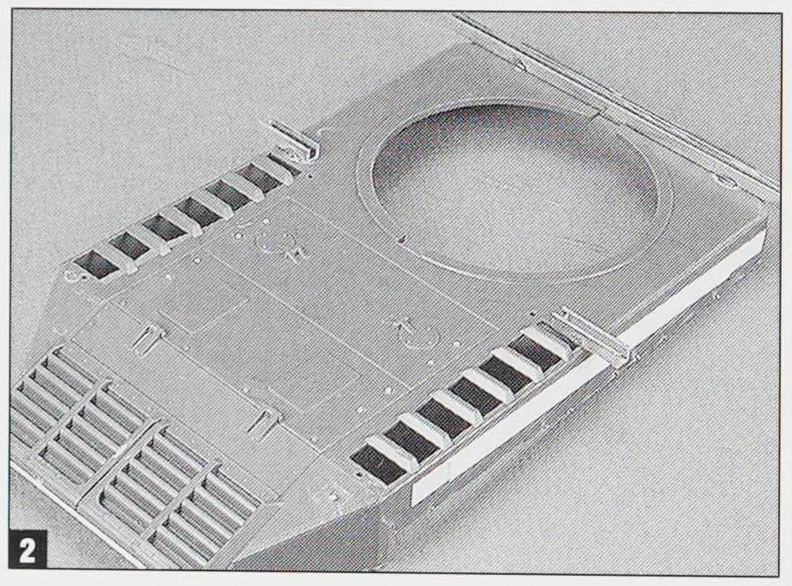

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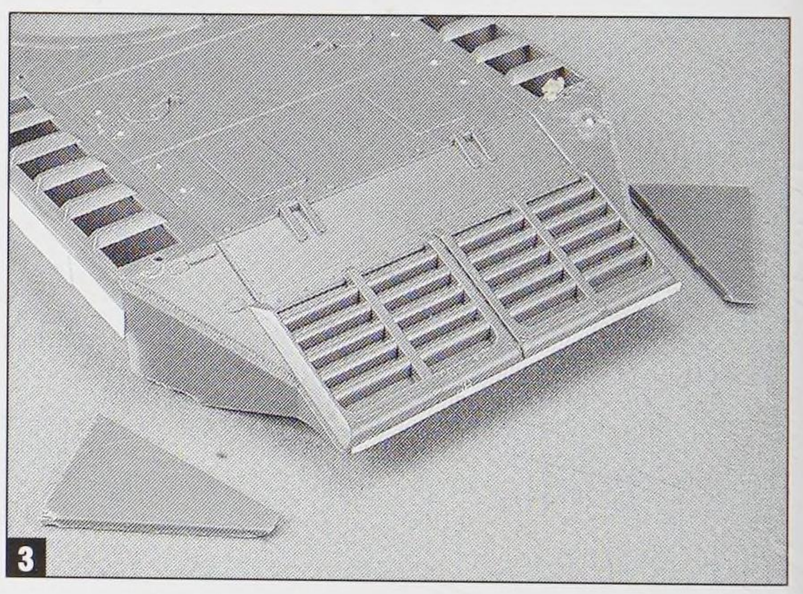


3

The model? No problem!

As far as modeling this vehicle, there are several choices around. Accurate Armour was the first one to take a crack at it, initially as a full kit and later as a conversion. The kit is also offered in plastic. Two versions have been released from Italeri; one of the original prototype and the other a rendition of the 653 vehicle. The Accurate Armor full kit was later changed into a conversion based around the Italeri kits. These kits are not all that great and the Accurate Armour conversion, although nice, does not quite reflect all of the current research.

Enter the Dragon. The Dragon kit, that is. The Dragon kit of the Elephant is truly terrific. I wanted to utilize all that great suspension and lower hull detail and I started to cook up a scheme. What if I mated one of the Italeri upper hulls with the lower hull of the Dragon model? And so...

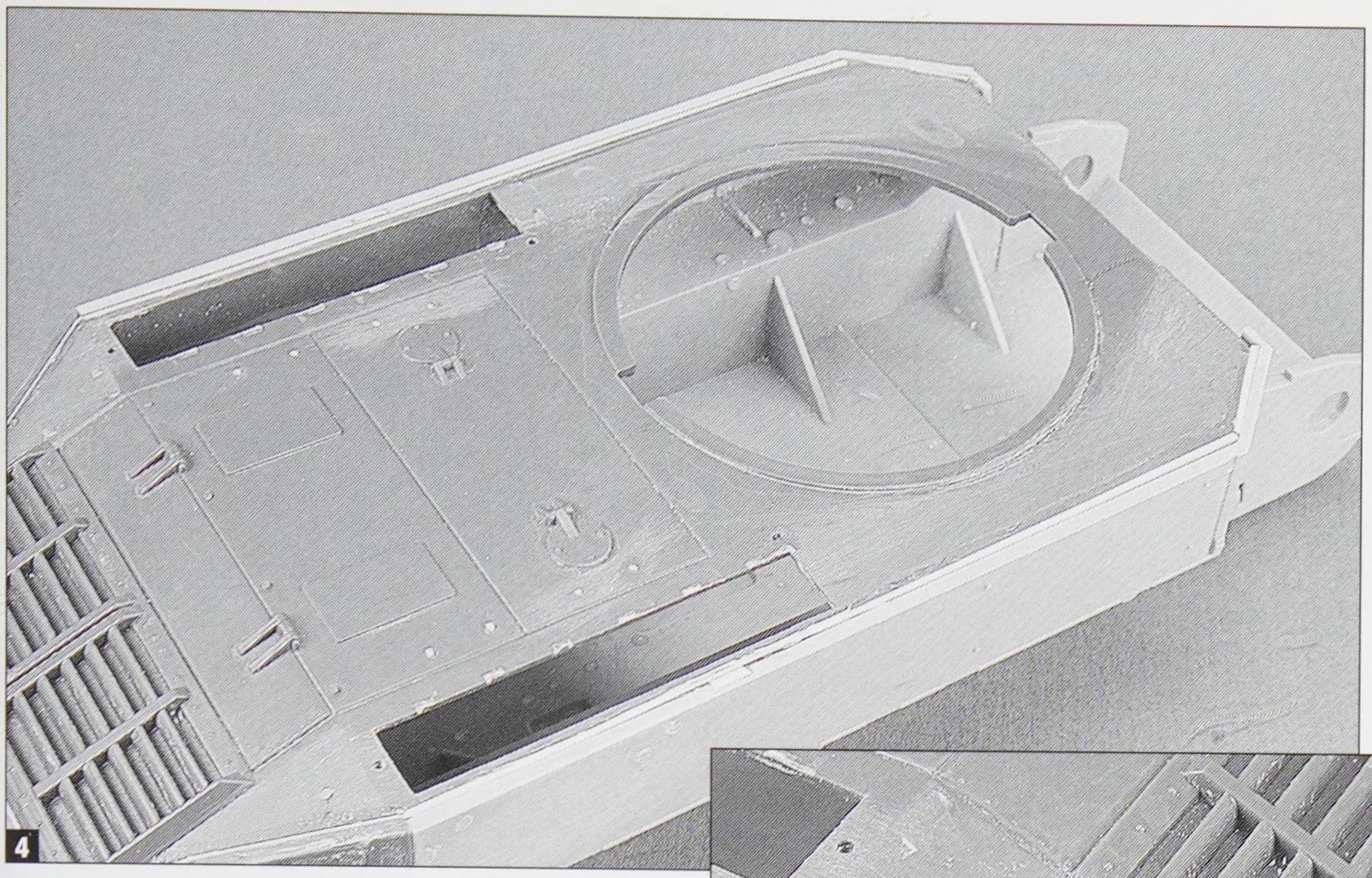
The Dragon kit was built according to the instructions, leaving off all of the back panels and the front armor. The Italeri upper hull is designed as an insert for its lower hull and this worked to my advantage on this conversion. It fits into the Dragon part, but with quite a bit of play around the sides. The best part about it was that the rear hull matches up quite well.

To prep the Dragon kit, the bottom rear hull panel needs to be cut away from a larger part. There is a natural scribe line and it only needs a small shim to bring it level with the rest of the hull. There are also four interior gussets that need to be removed before plopping in the Italeri hull. The hull at this stage can be seen in **photo 1**.

The Italeri hull needs shimming along its sides. I added styrene strips until the fit was snug, but not tight. To ensure the top of the Italeri part was absolutely flush with the Dragon hull, I temporarily glued three sections of brass girder on the top of the Italeri hull. The girder is extremely rigid (hey, it's a girder) and it kept the large part from slipping too far into the lower hull. I also wasn't sure that the rear-armored grates were extending sufficiently, so a shim was added to that area, too. The hull part was also roughly cut up to reduce its depth. Ready to drop in, it's shown in **photo 2**. The rear triangular panels from the Italeri kit were also used, but their shape is not correct. These are shown off the model in **photo 3**.

The inner hull was mounted, then attached with super glue. Any remaining gaps were shimmed with styrene and filled with more super glue. Zap-a-Gap accelerator was used to speed up the process. Once the gaps had been filled and the glue had set, I wet sanded like crazy to smooth everything out. Water drops can still be seen in **photo 4**. It's very important to fill any major gaps with a stable material like super glue. Softer

*From the Tiger P production series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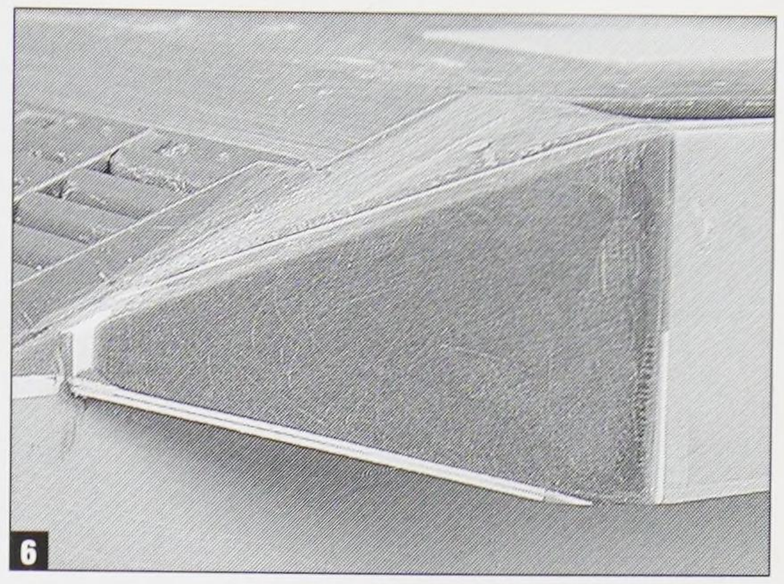
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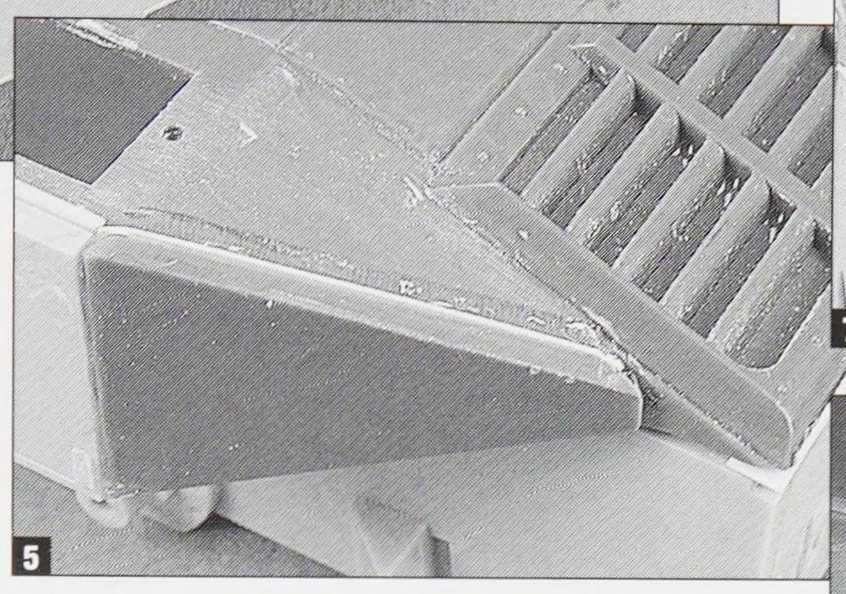
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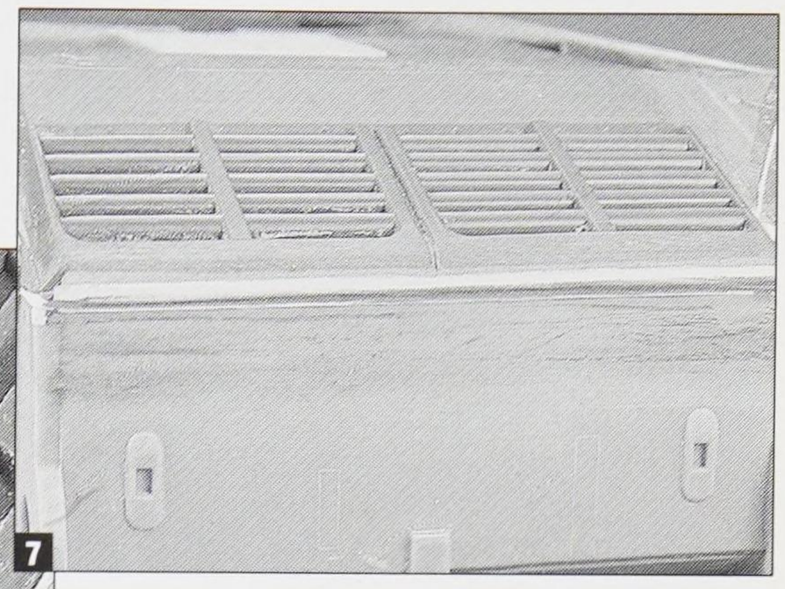
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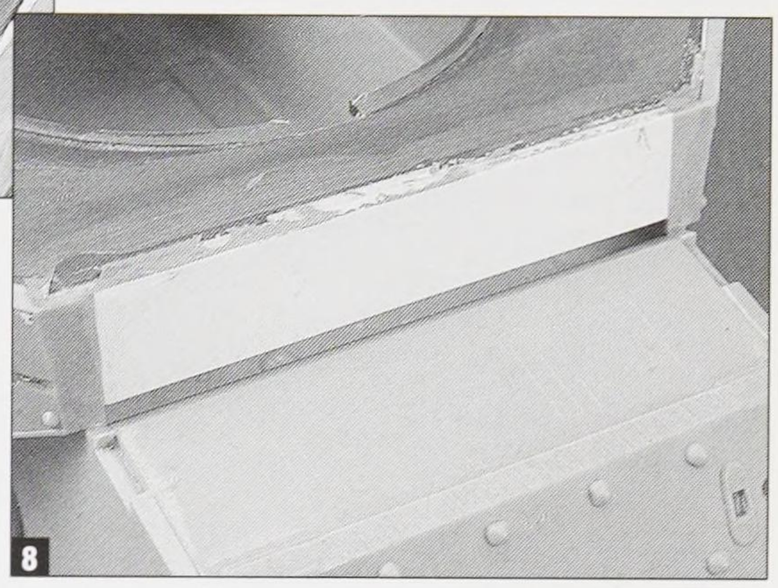

8

putties (like the red stuff) should only be used for minor imperfections. I removed the large lugs that lay across the rear vents. They are nowhere to be found in the plans of the real vehicle.

Those pesky rear panels are shown installed in **photo 5**. There are still gaps in the rear of the part. Also, the bottom of the part is the wrong shape. A bit more shimming and super gluing later, the part looked like **photo 6**. The lower front of the part needs to be flat and the overall angle of the bottom needs adjusting. The best guides for this are the fender panels. I test fit them against my shims until the fit was just right. About half of the correct rear panel can be salvaged from the Dragon kit, but I didn't figure this out until later. Some of the other filling is also visible in photo 6.

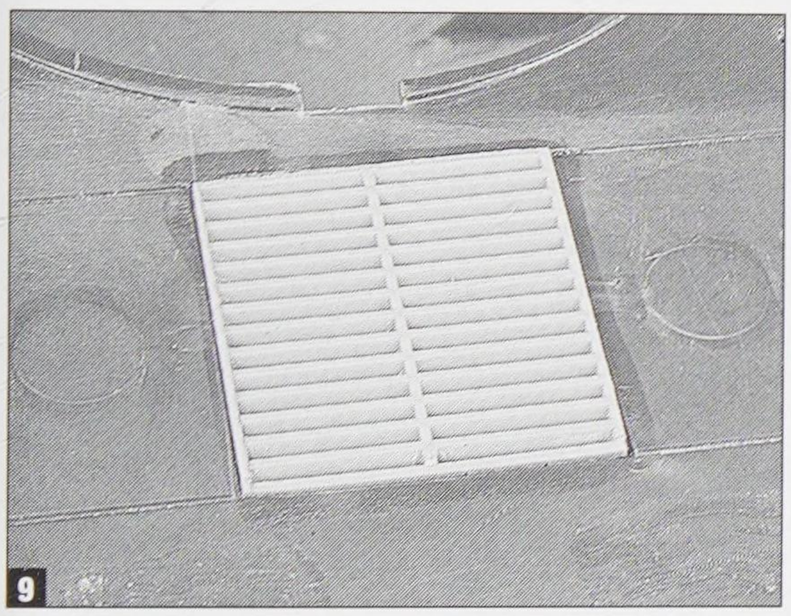
The shim on the rear engine vent was barely necessary, but it served to tidy up the area once everything was sanded and puttied (**photo 7**). The nub for the rear tow-hook (an Elephant feature) was later removed. This panel will eventually be covered with zimmerit, as well.

To close up the front of the hull, I added several sheets of thick styrene across the gaps (**photo 8**). This replaces a part found in the Dragon kit and this will be the location of the double hull armor. As I still had work to do on the upper surface, I left this part until later.

A couple of issues about the engine deck panels made me wish I hadn't used the Italeri upper hull. The rear engine deck doors are the wrong size, according to the Doyle plans. Once again, this wasn't picked up until it was too late. However, it isn't noticeable unless you have the plans in hand. Basically, the rear door is smaller, while the one closest to the turret is deeper.

Anyway, to cool the new engines, a large grate was added to the top door. I scrounged one from the Dragon kit and trimmed the depth to fit the Italeri panel. I then carefully scribed the outline in the deck and cut out the excess plastic. **Photo 9** shows the installation. The two round hatches to either side of the grate were removed on the real vehicle and replaced with welded plugs. To represent this, I simply removed the hinges and sanded the hatches until they were barely protruding from the deck. The door below the grate was reinforced with a thick armored panel and this was made from styrene sheet (**photo 10**).

The door could still open, so the hinges were raised to meet the level of the door. Following the plans, I made the hinge riser blocks from styrene and made the weld beads from red putty. The hinges themselves were carefully removed from the Accurate Armour kit and the center portions were made from plastic. The inner hinges were added first so they could be sanded and shaped simultaneously using a sanding stick. Once the risers were installed the same was done for the outer hinge parts. The hinge pin ends were made with a punch and die set. The finished right hand hinge is seen in **photo 11**.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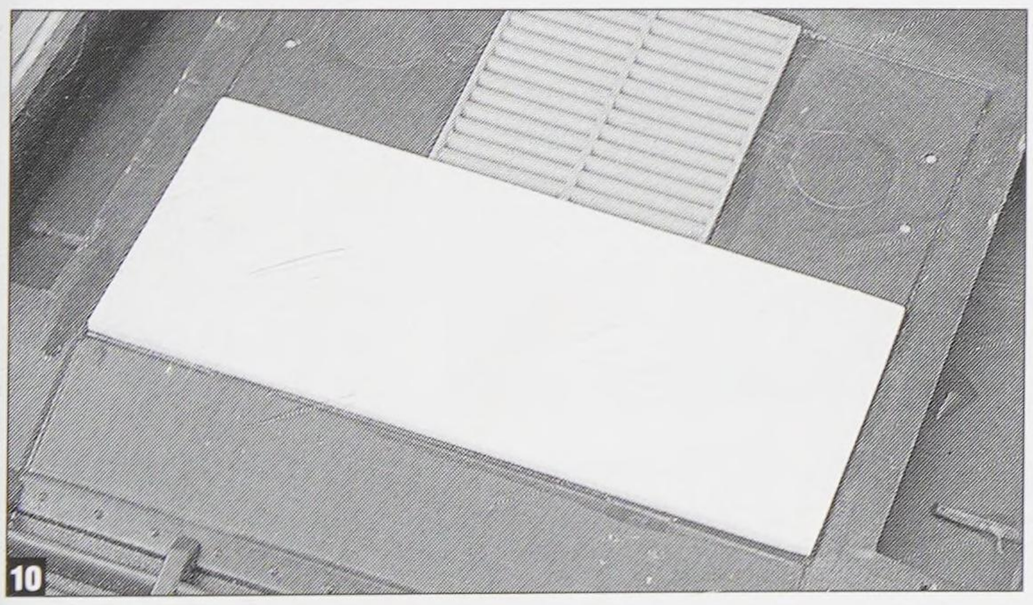
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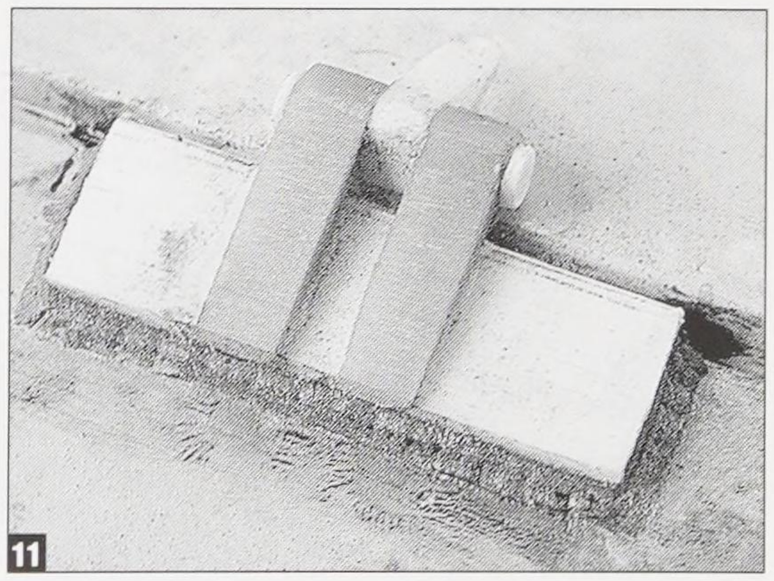
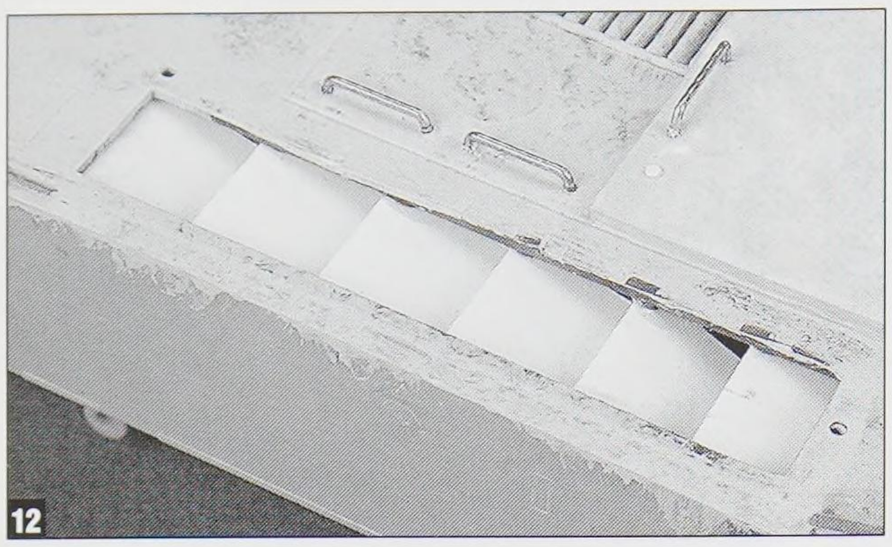

11

The large armored frames on either side of the engine deck each contained a series of vents underneath. I made these from card stock. I wasn't too careful with the alignment here, because they will be barely visible once the screens and frame were added. Just prior to that, I'll paint the area black (**photo 12**).

Photo 13 shows the completed area, with the vents, both hinges and the various grab-handles and rivet heads added as dictated by the plans.

To unify the entire upper hull, it was textured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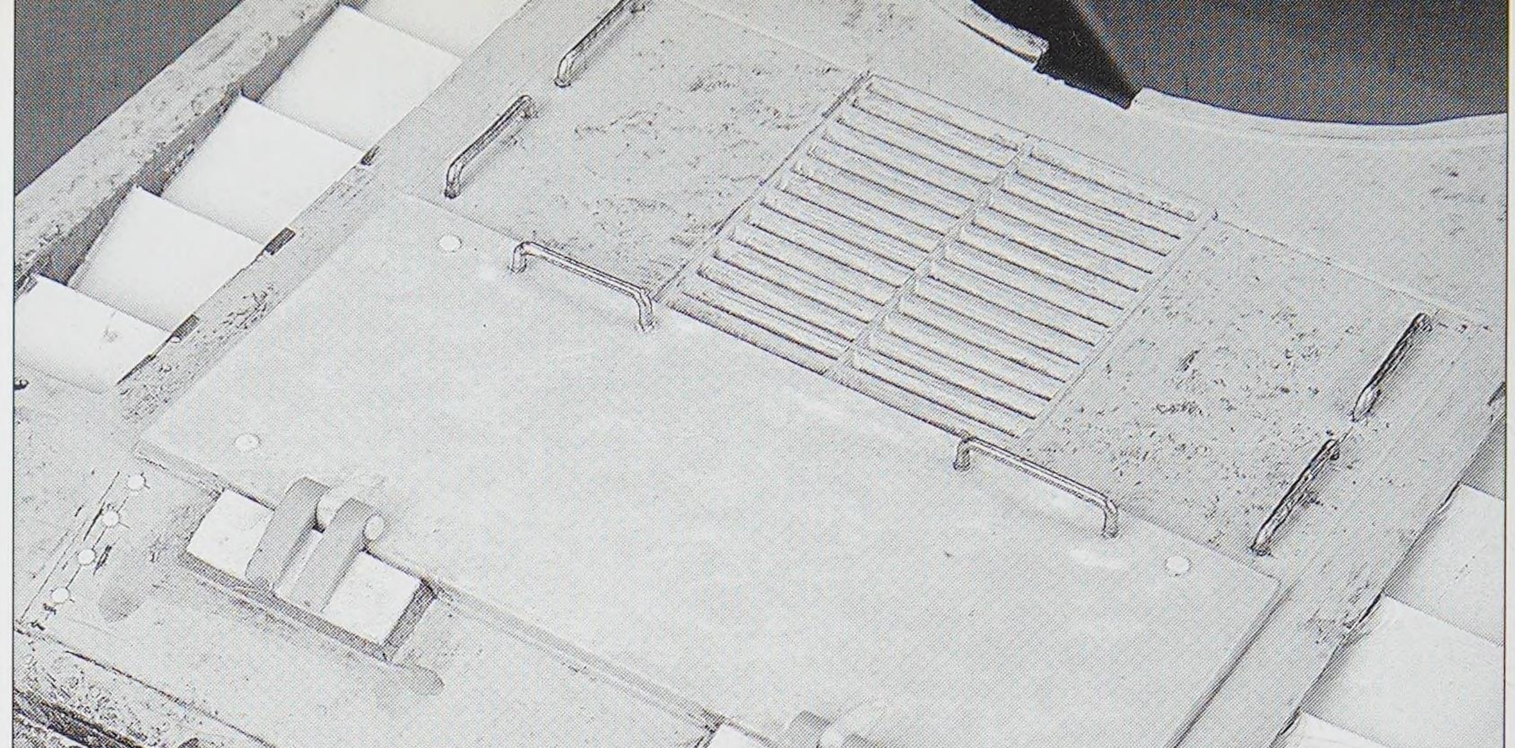
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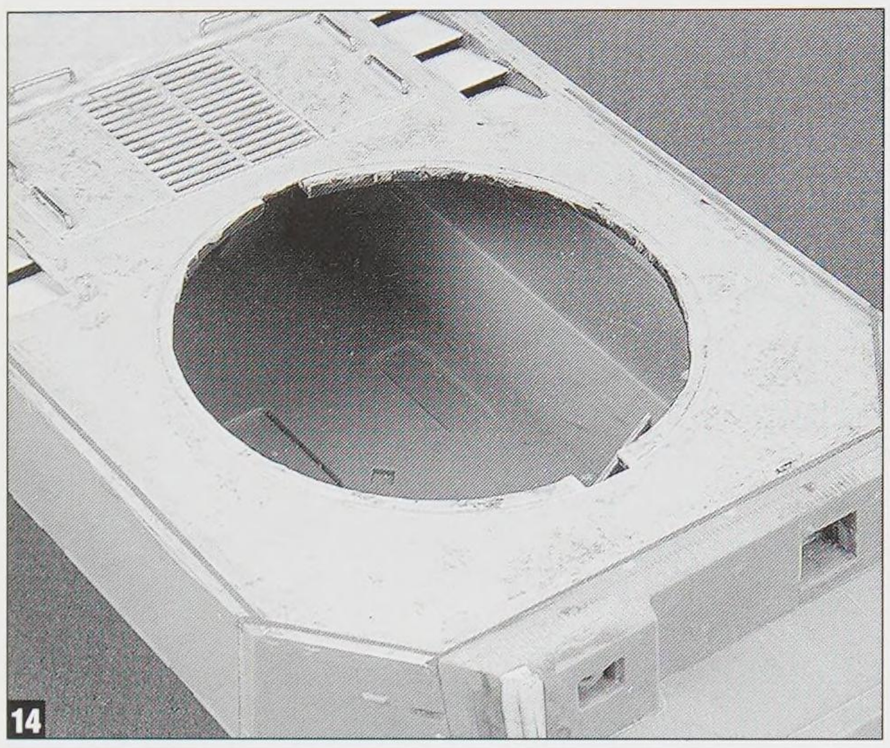
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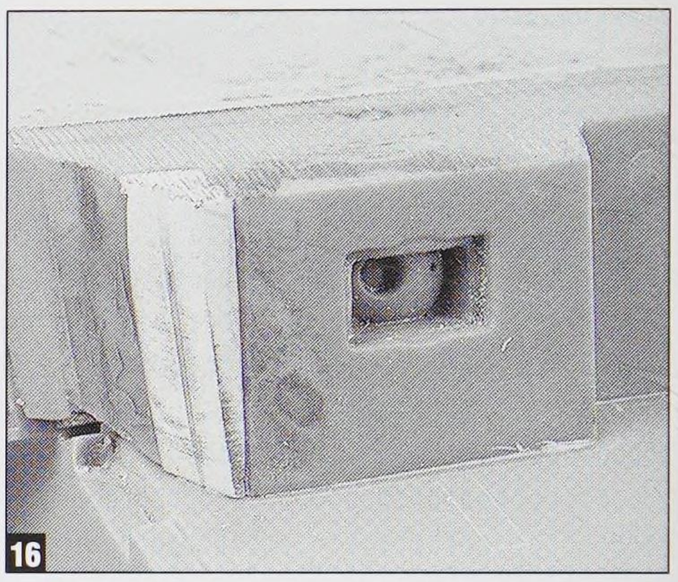
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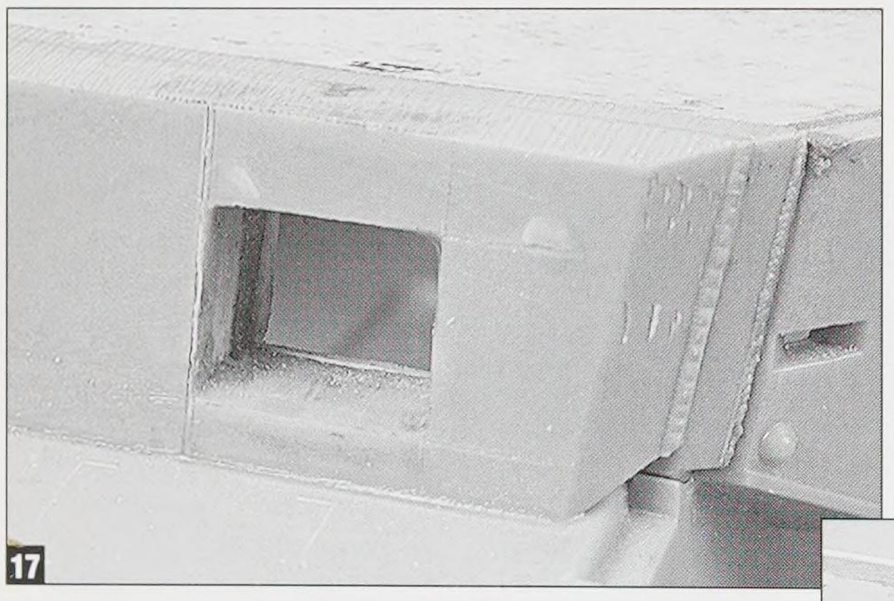
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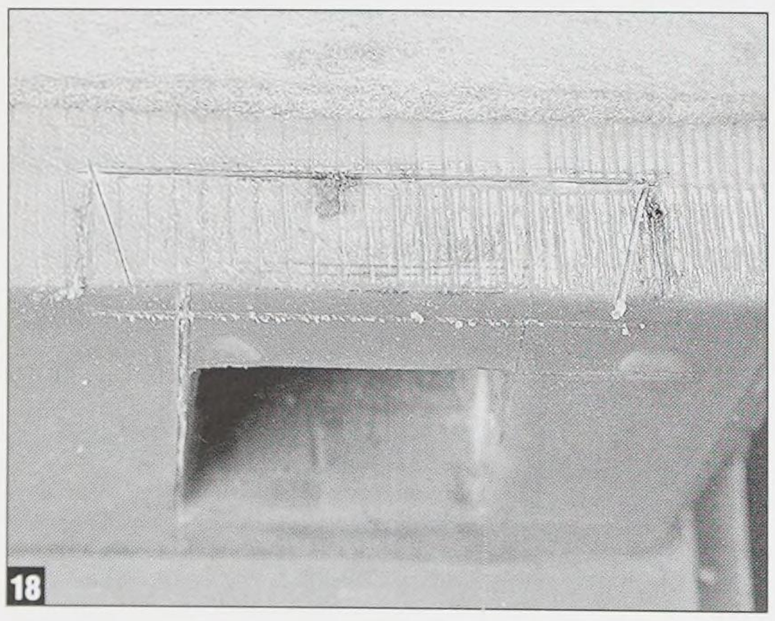
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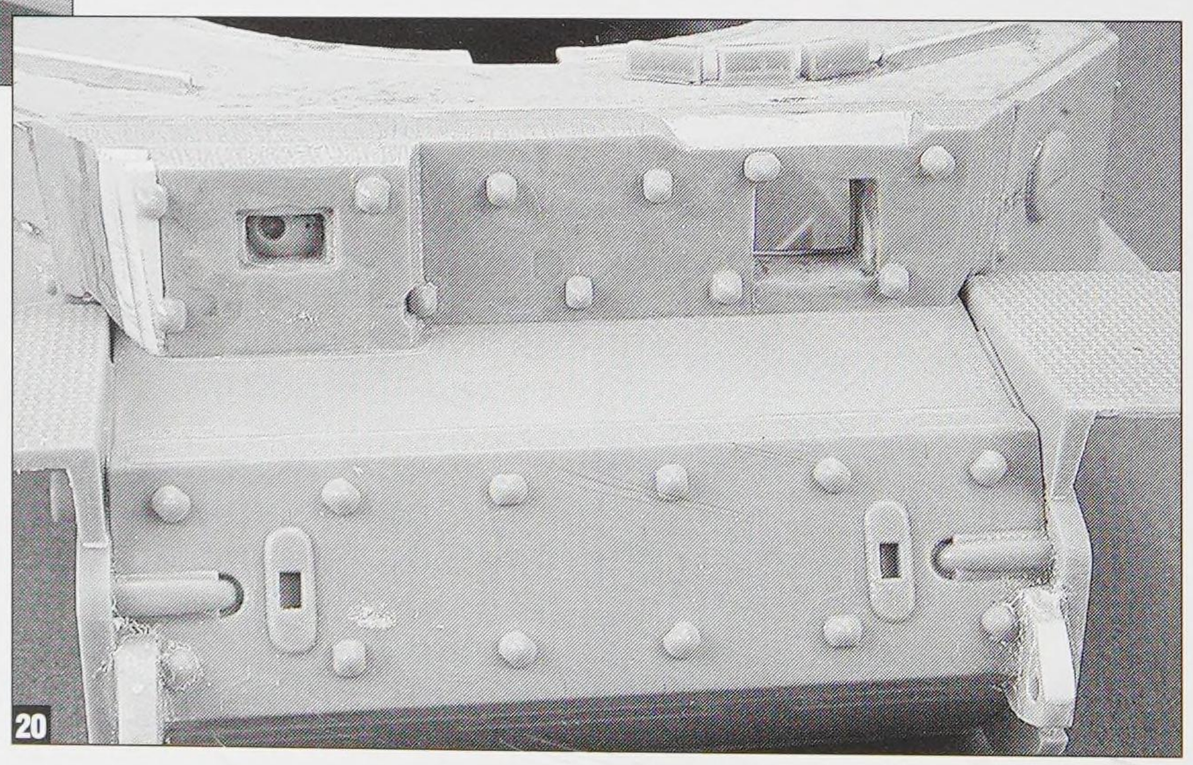
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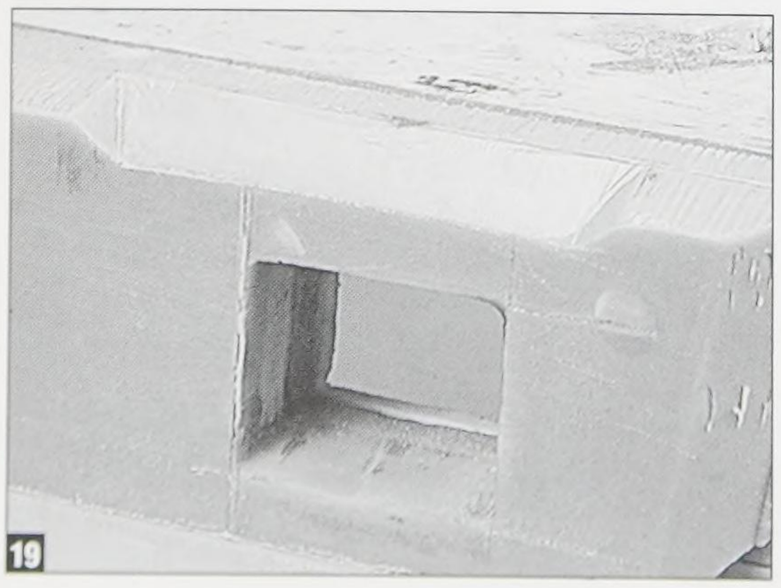
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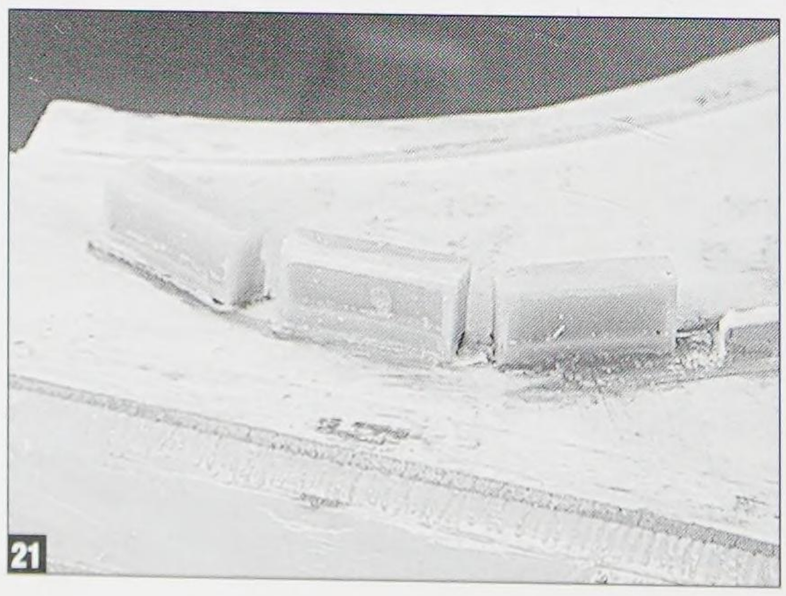

21

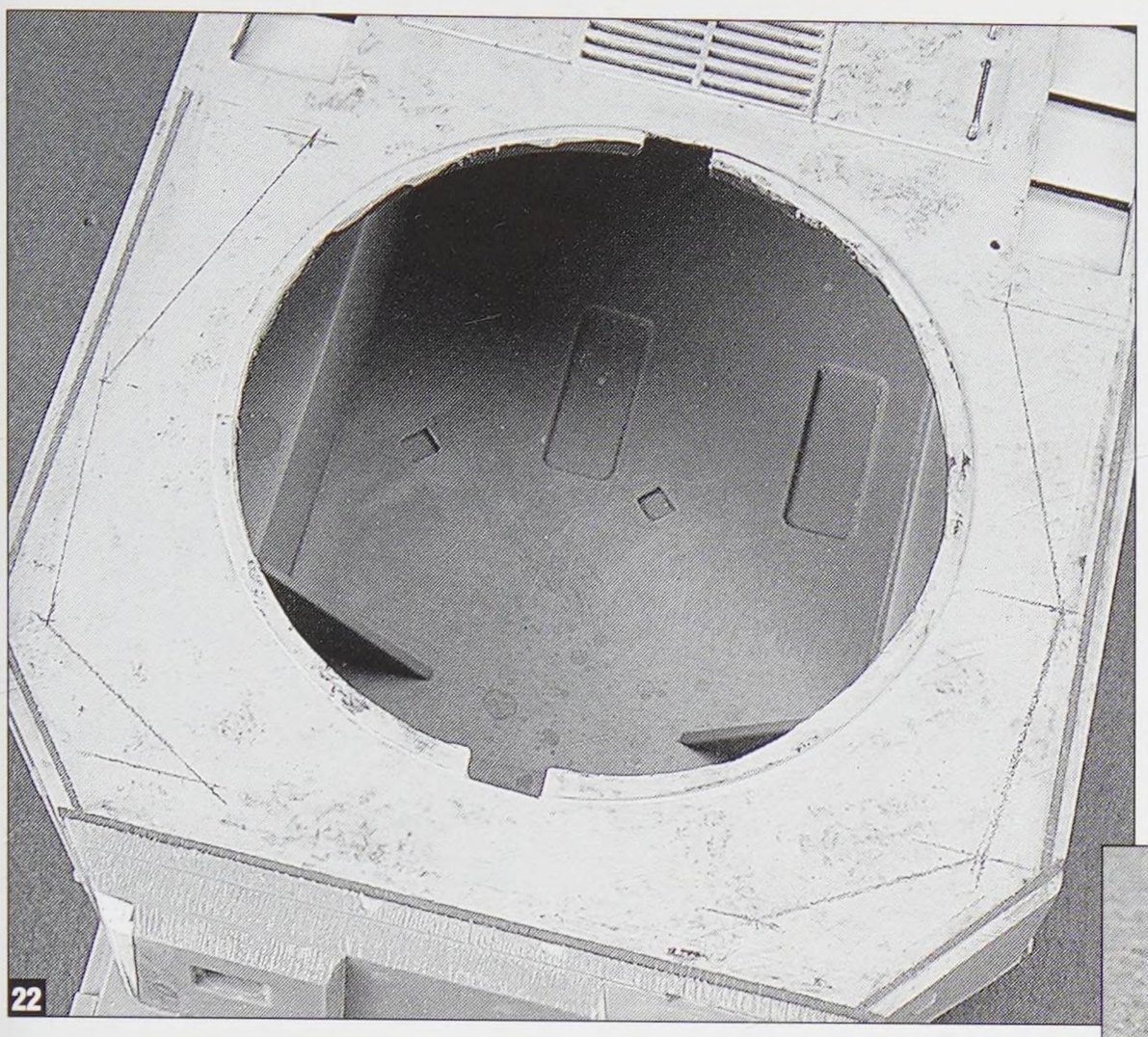
with Gunze Sangyo Mr. Surfacer (a complete explanation of my method can be found in the general detailing section). This also provides a nice even surface to add weld beads to. They have been added in **photo 14**. They extend all around the sides and down the back panels (**photo 15**). The front armor was added last to allow me to properly mask the putty used to form the beads. Photo 14 also shows the turret race, which was widened slightly to accommodate the Tamiya turret. This was done by measuring the race on the Tamiya part, then marking, scribing and carefully cutting the hull race. The fit isn't too critical, just as long as the turret turns without binding.

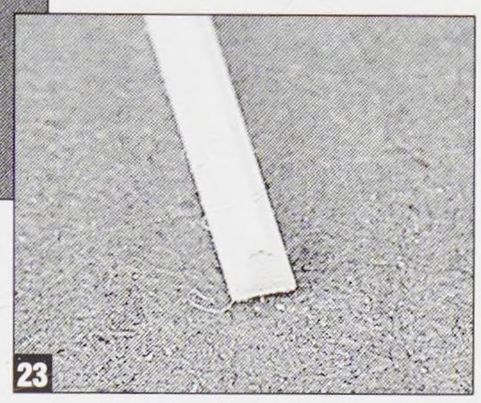
The front armor is correct for the most part for the Tiger P. However, it did not have the notch near the MG port that is featured on the Dragon part. This was filled with sections of plastic and puttied smooth (**photo 16**). Oddly, the bolts on the outer surface of the armor are a different pattern on the Tiger P. They were removed with a chisel tip blade (#17) and set aside until later. Also on the odd side is the vision block cut through the thick panel. I drilled and cut all the parts prior to installing them and squared them up once they were dry (**photo 17**). This area later gets a hinged visor.

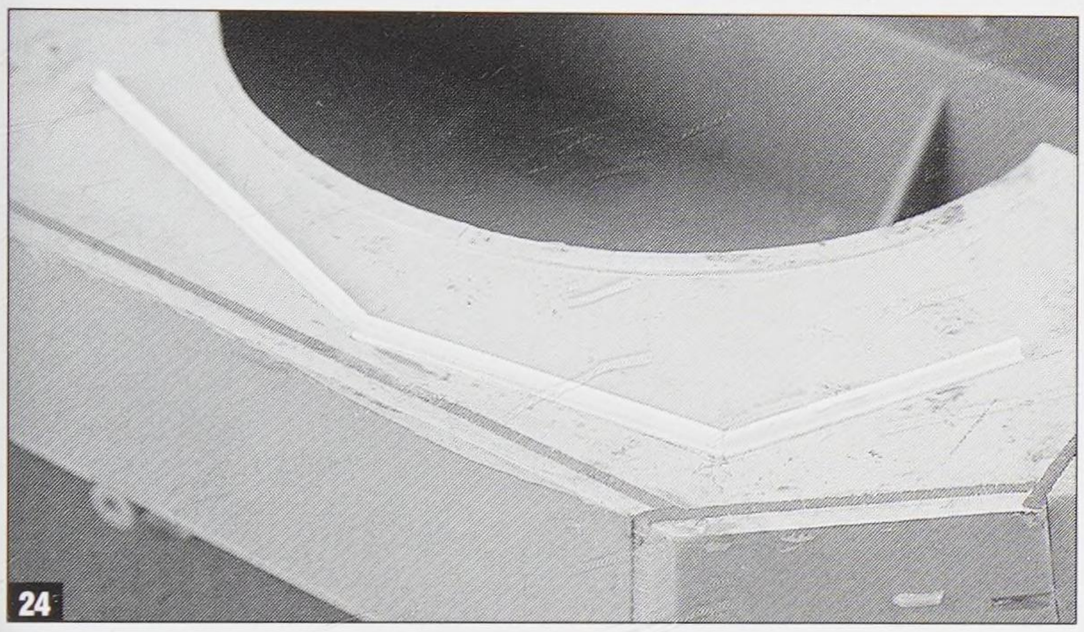
The area above the visor is milled down to allow the driver to see a bit more with his roof mounted periscopes. This area was carefully scribed and carved out as shown in **photos 18 & 19**.

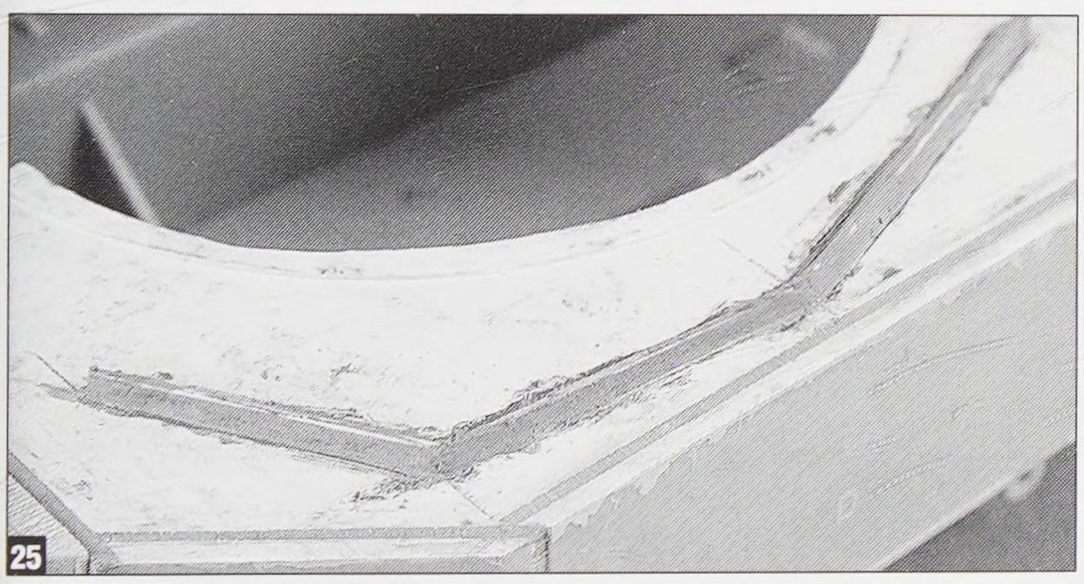
As mentioned, the front bolts were positioned differently than the Elephant. Their final position is shown in **photo 20**. This shot shows all the final modifications except the armored visor. **Photo 21** is a close-up of the three periscopes on the roof. I debated about adding a flange or other mechanism for them to rest in the roof, but all my sources stated they simply slide into notches cut in the roof.

Like the Panzer IV and the Panzer III, the Tiger







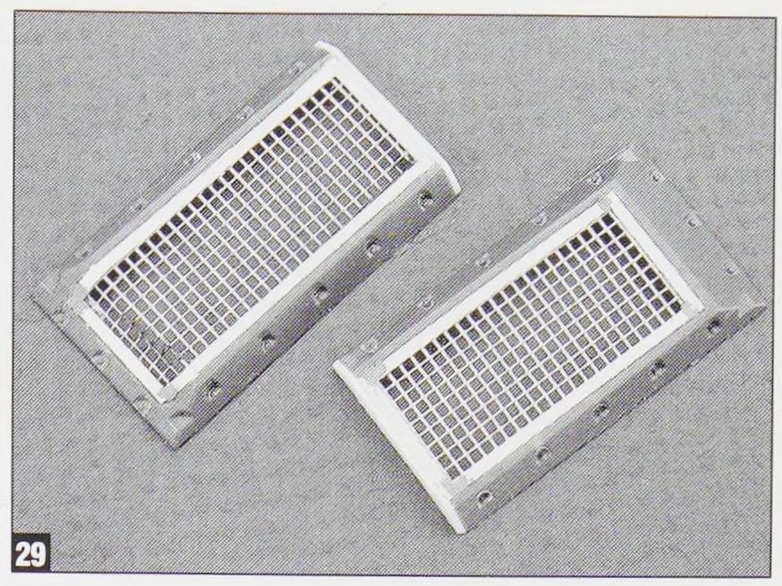


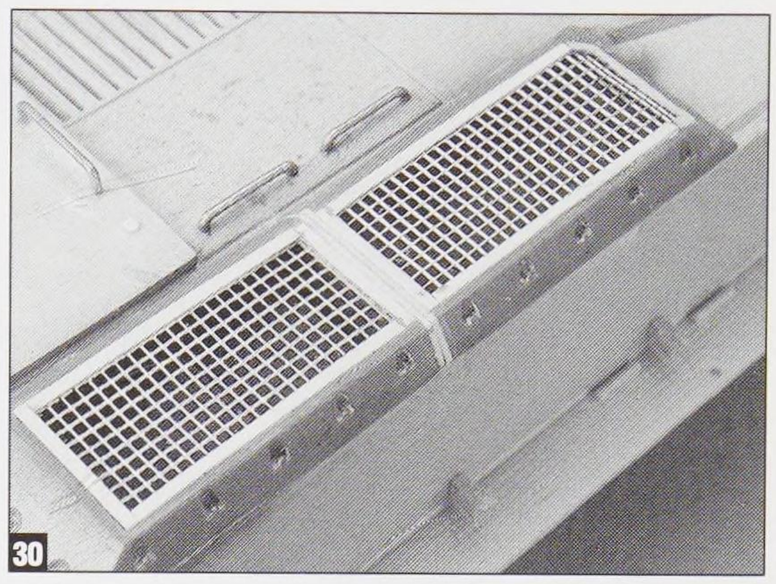
P was designed with a bullet splashguard for the turret. I borrowed a page from the Tony Greenland book and used Plastruct T-channel to form the base of the guard. First, the guard was laid out using the Doyle plans as a reference. Thin pencil lines were marked out on the hull as shown in **photo 22**. The Plastruct T-channel is shown in **photo 23**. The idea here is to fill the sides with putty and create the V-shape of the guard. The right side guard is shown in place in **photo 24**. The first application is shown on the left in **photo 25**. It took several applications to get this all smooth and nice looking.

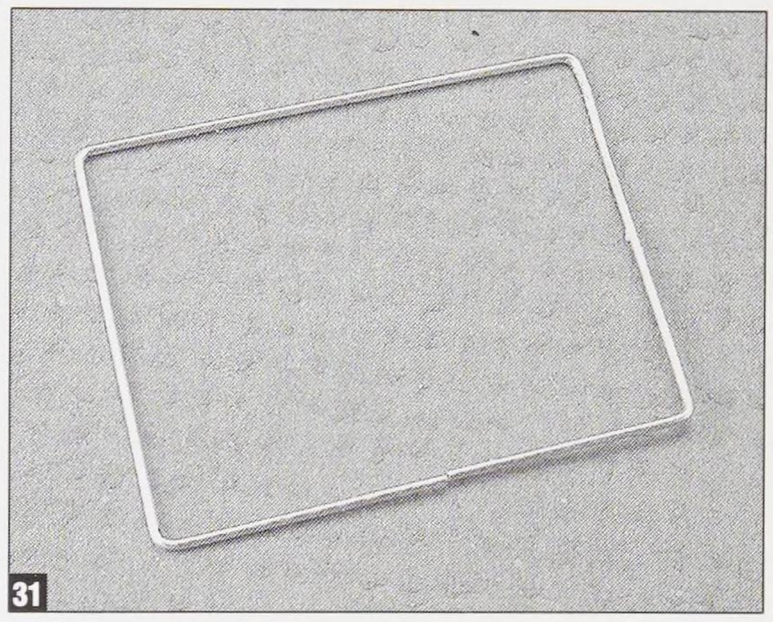
The large, rectangular vent covers for the back deck are supplied in the Italeri kit. However, they are each rendered as a single, long section. I figured that this would be a good starting point, so I carefully separated the two halves of the part using the center seam as a guide (**photo 26**). There is also a molded in plastic screen pattern on the top of this part. This was a nice attempt and was actually pulled off pretty well in styrene. This was destroyed in the separation process. Note that the two edges of the vent cover are different. The flatter, chamfered edge goes on the inside.

The two sections of the vent cover were mounted together against a flat section and this was duplicated with styrene. The screen that was on the top of the vent was mounted in a frame. The edge for the screen was carefully recreated on the Italeri part and a matching edge was formed with styrene for the backside. All this is seen in **photo 27**.

Aber mesh was cut and test fit about a million times to fit against the frame, which was made from Evergreen strip. The mesh was installed from below (**photo 28**).

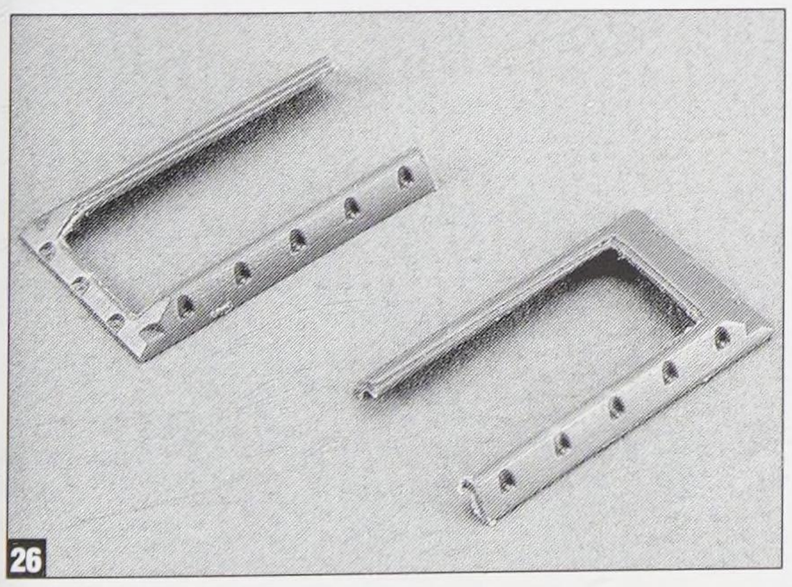


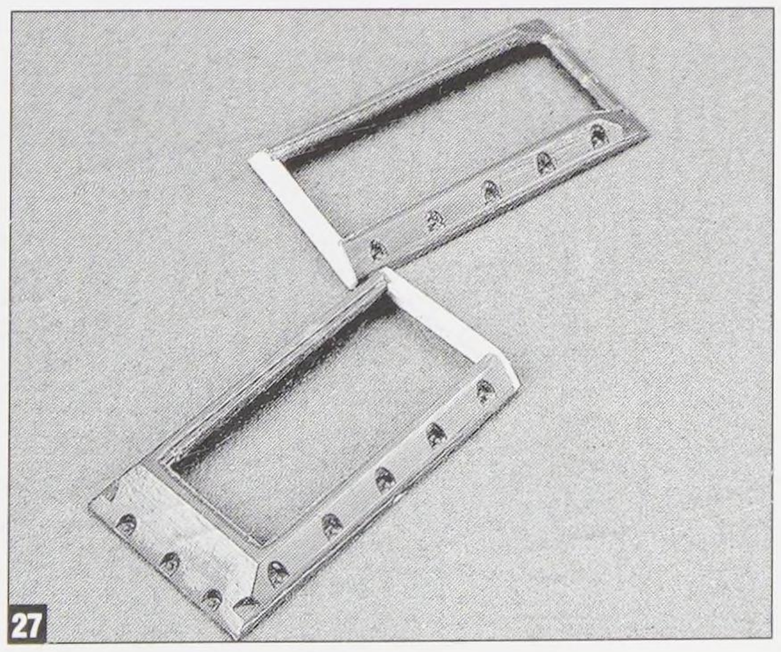


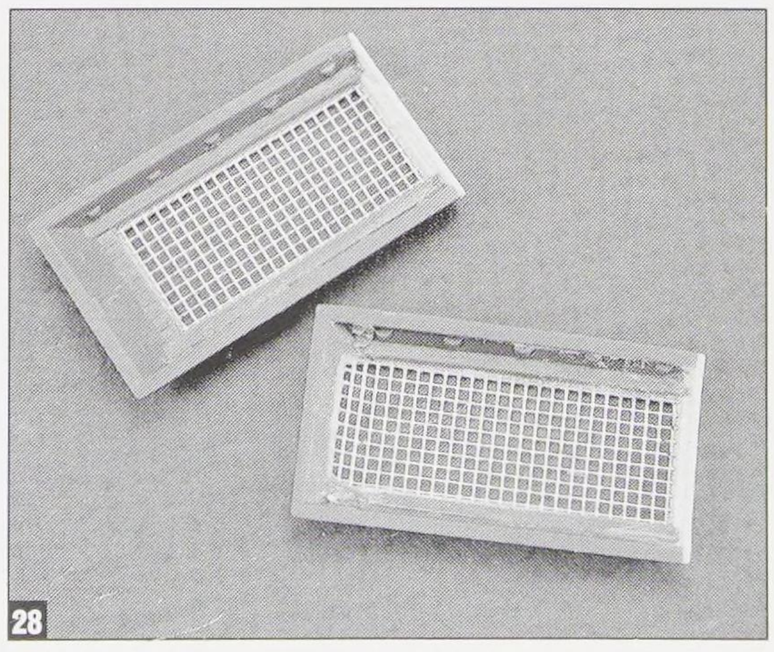


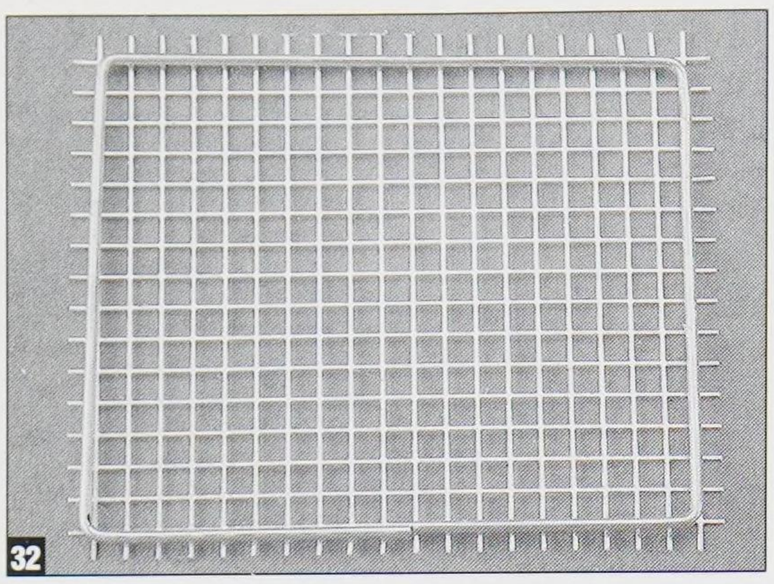
The frame was carefully fitted into the aforementioned groove and the (more or less) finished parts can be seen in **photo 29**. A little putty was necessary to touch up the corners of the frame. The completed parts are seen installed on the hull in **photo 30**.

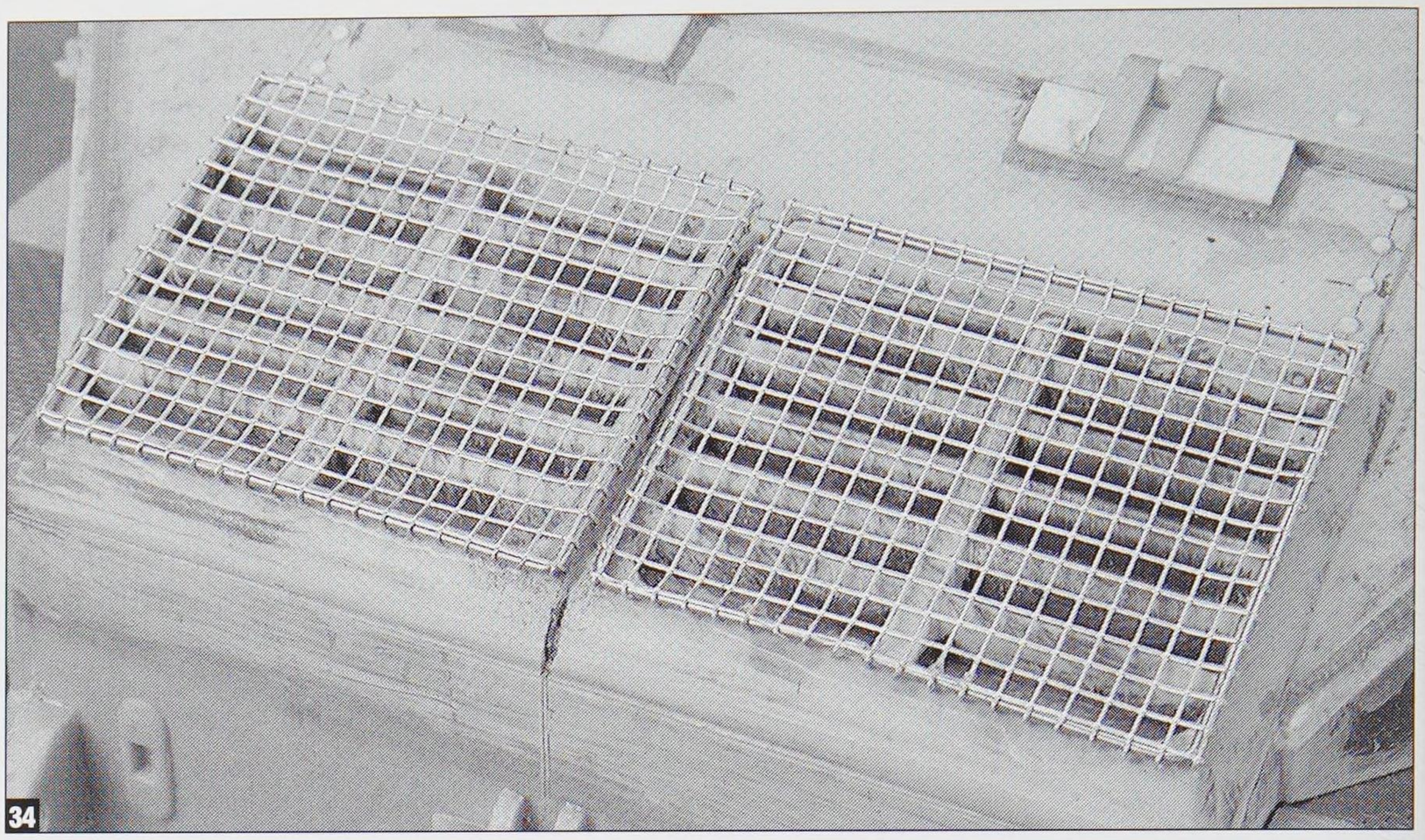
There's more mesh fun in store on the two large screens on the back deck. I also used an Aber mesh for this, albeit a larger size. I first formed frames from brass stock using the Doyle plans as a guide (**photo 31**). I deliberately sized the frames to match the squares on the Aber mesh as shown in **photo 32**. Once everything looked about right, I carefully tacked the mesh in place with very small amounts of superglue. The object here was to be



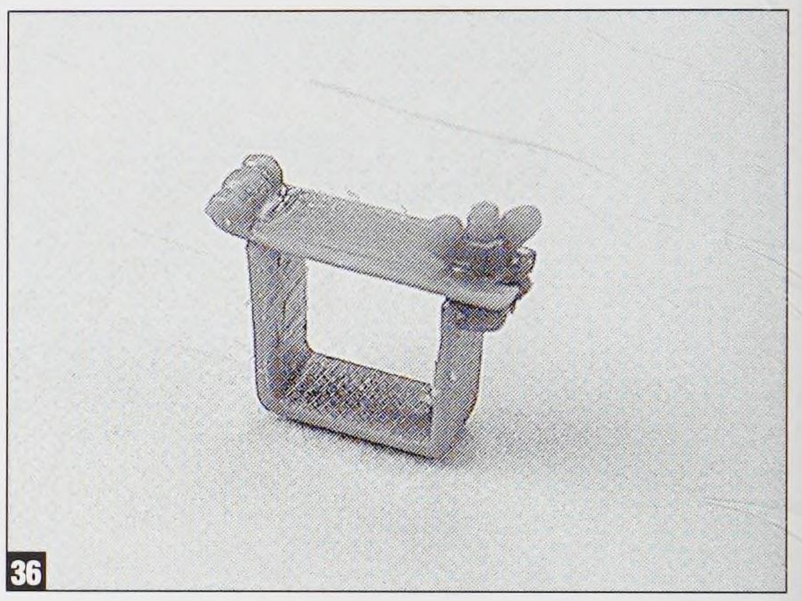






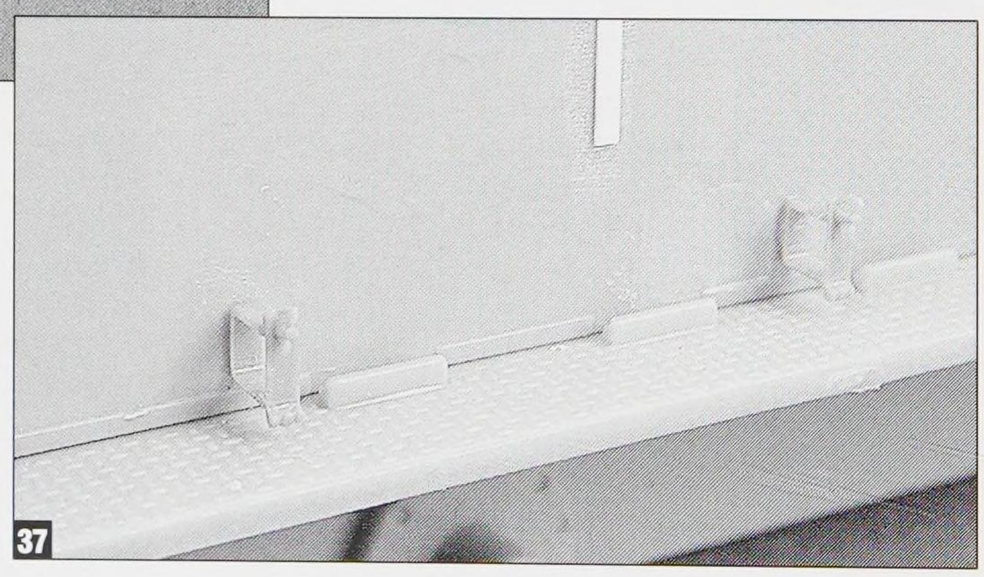


The fenders from the Dragon kit can be used for this conversion, but they do require lengthening. This is a bit tricky, as the fine tread pattern of the fender will be marred. In **photo 35**, the bottom of the fender shows the amount of shimming that I did to get the fender to the proper length. To disguise the modified section of the fender, I used a section of On the Mark Extra Fine German pattern plating. This is a very thin etched sheet that added only minimal thickness to the fender. I scored the fender at the edges of the plating and this helps to hide the cut edge of the plate. The cut edges of the plate curl very slightly in the direction of the cut and snuggle down into the score.



A tale of two cables and other fender adventures

The Tiger P's two cables ran along the lower side of the hull on both sides. A very specific bracket retained the cables. This bracket can be found in brass in a number of different sets, including the Aber set for the Tiger P. However, one of these is also found in the brilliant styrene set made by ModelKasten for the StuG G. There were several sets of these in the office for our StuG Modeler's Guide. Since the bracket is only used on the StuG G model, I had several left over. Six are needed and you can see why this was worth all the trouble in **photo 36**. The brackets are shown installed along the hull in **photo 37**.

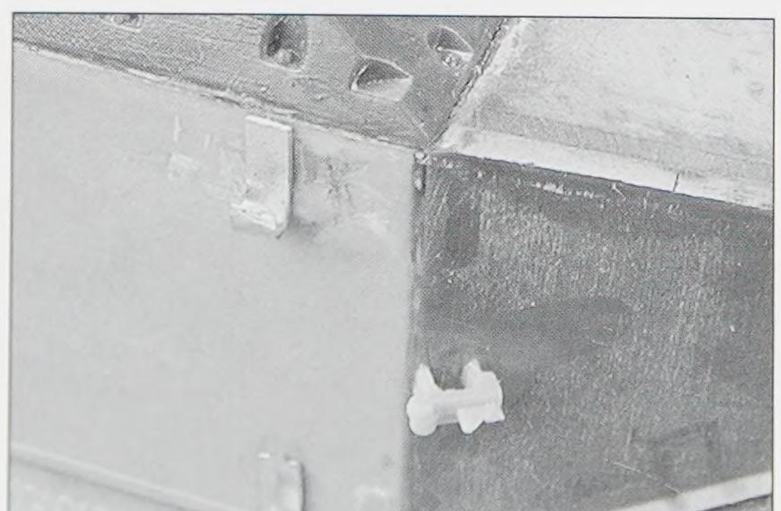


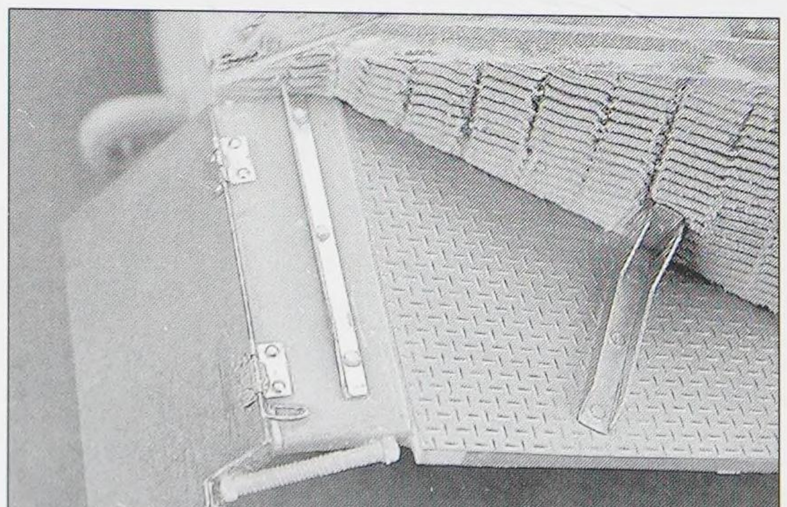
The cables are further routed along the back of the hull using two large hooks and a miniature version of the above detailed bracket. This smaller version is found in the Dragon Elephant kit. The hooks are from the Aber Tiger P set and are both seen in **photo 38**.

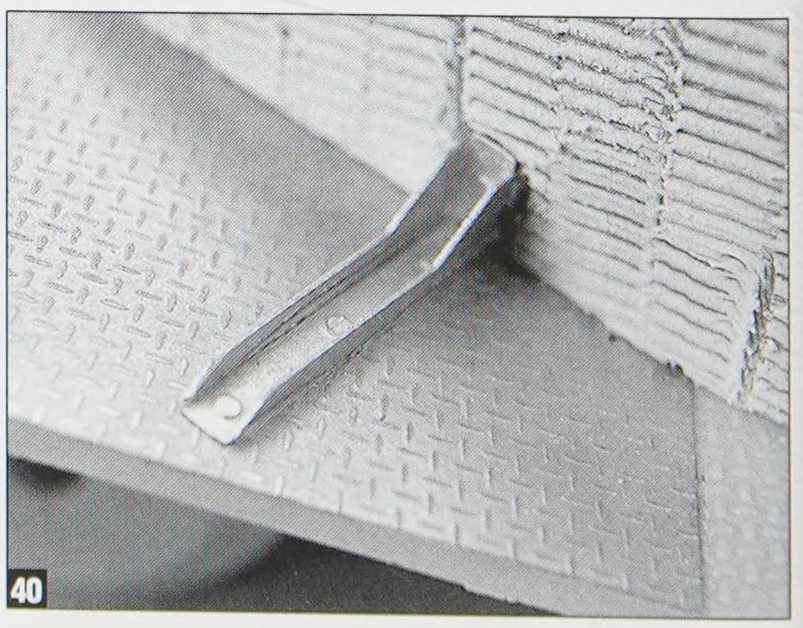
The rear fender flaps are from the Aber set, while the front fender flaps are taken from Royal Model's excellent set for the Elephant/Ferdinand. The rear flaps are shown installed in **photo 39**. These were detailed with Aber hinges and scrap brass was added for the rear support. The Dragon kit's springs were used to finish them off. Also seen in this photo is one of the spiffy fender supports found in the Royal detailing set for the Ferdinand. There are a total of six used from the set and

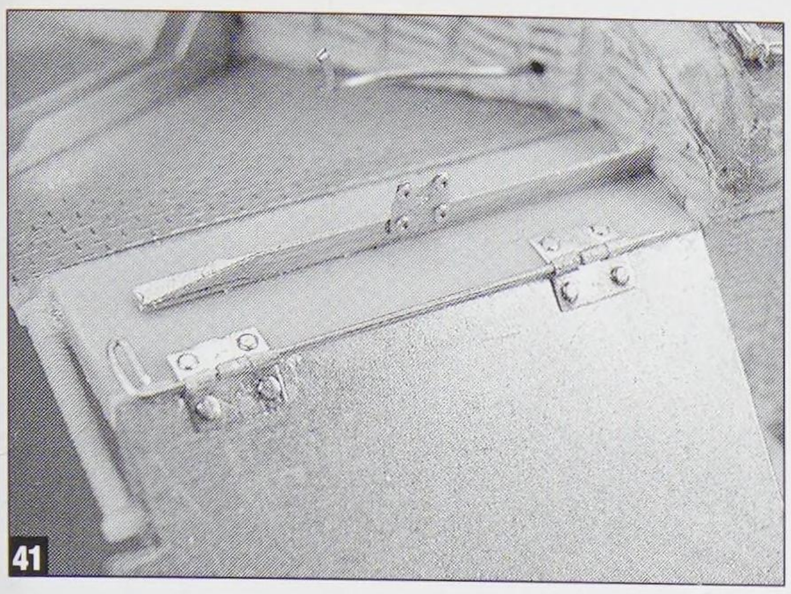
able to wrap the edges around the frame. This is very evident in one of the reference photos. The mesh was also pushed down into the frame, another detail gleaned from the photo. On the real vehicle, I assume this was caused by being stepped on. All this can be seen in **photo 33**.

The finished screens are seen in **photo 34**. Closing the edges of the frame was difficult and the gap can still be seen on the right hand screen here. Later, small front support rods were added to the top edges of both screens.





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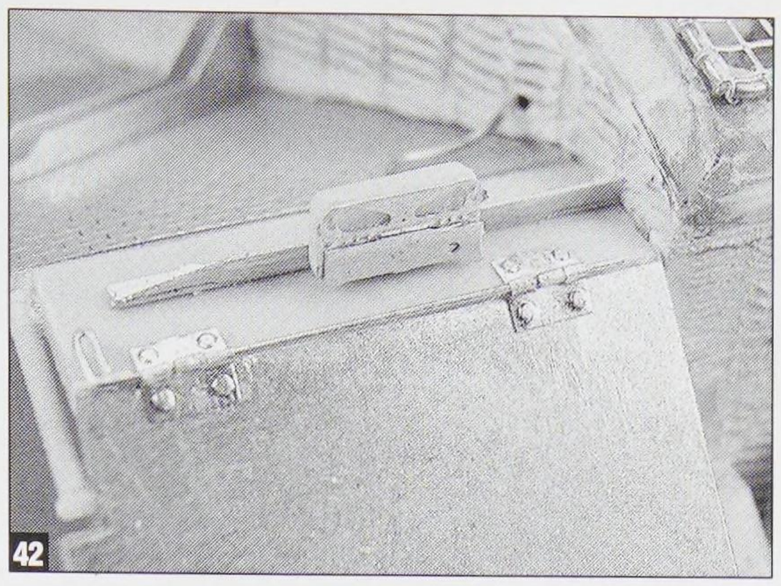
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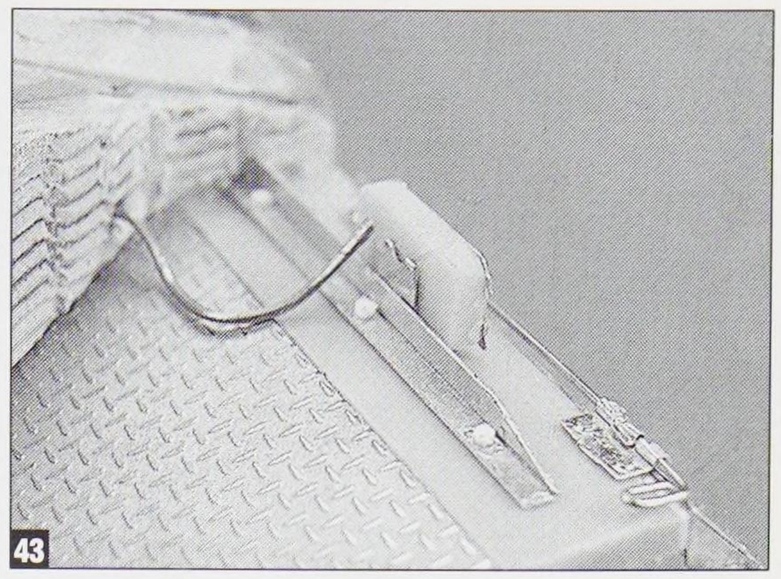
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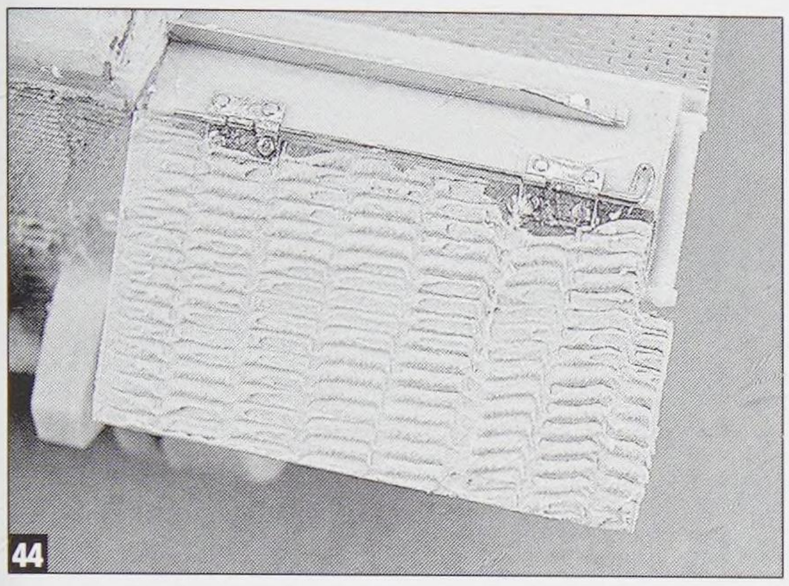
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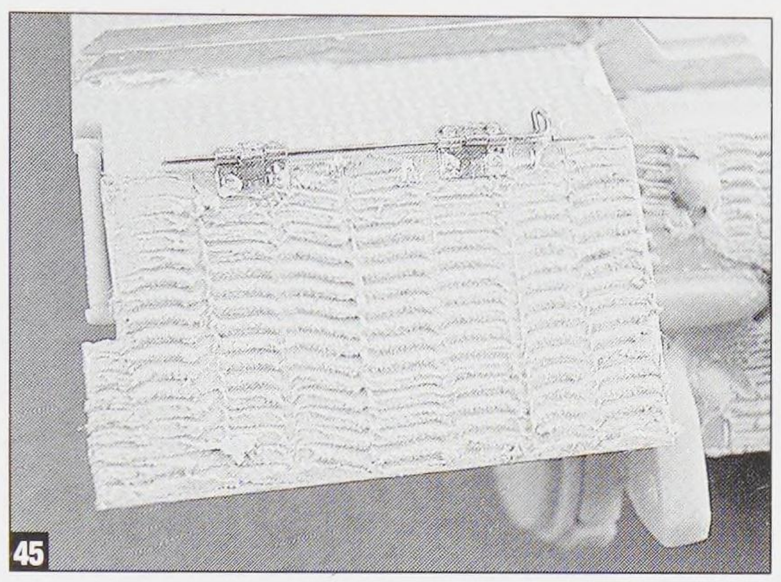
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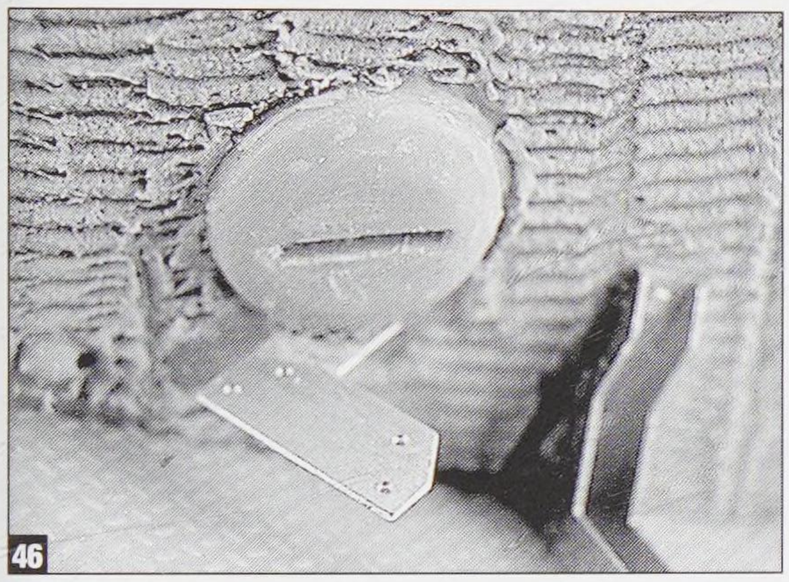
hardly seemed worth it. So my working theory is just the left side set.

The tools were installed along the styrene strip and they are held in place with Aber clasps. The Aber parts are just slightly oversized, so they must be placed quite close to the top in order to still clear the tow cables. Note their proximity to the tow cable brackets in **photo 49**.

The original Tiger P carried two jacks, but the operational vehicle modeled here only had the one and it is seen installed in **photo 50**. The brackets are etched parts from the Royal set and they were further detailed with styrene rod for the large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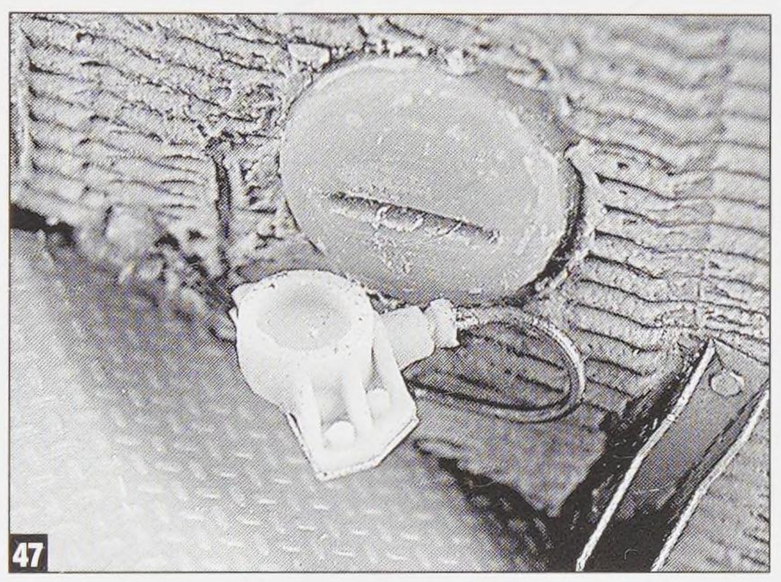
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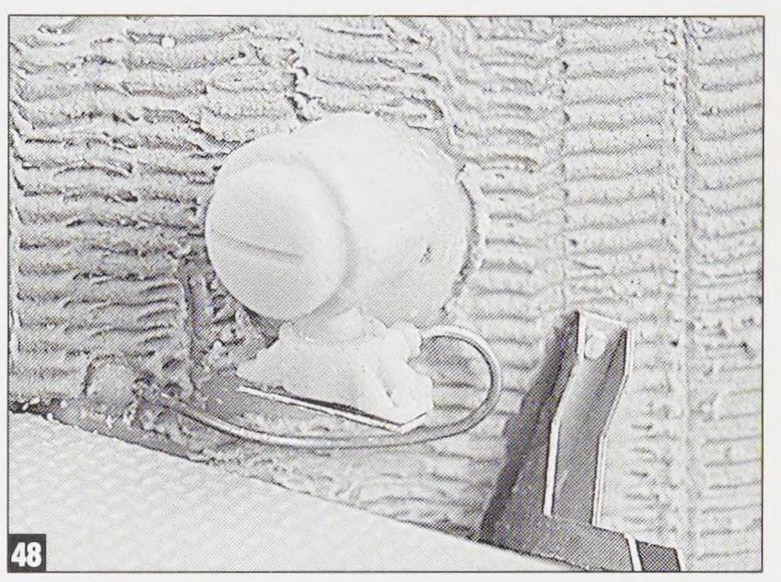
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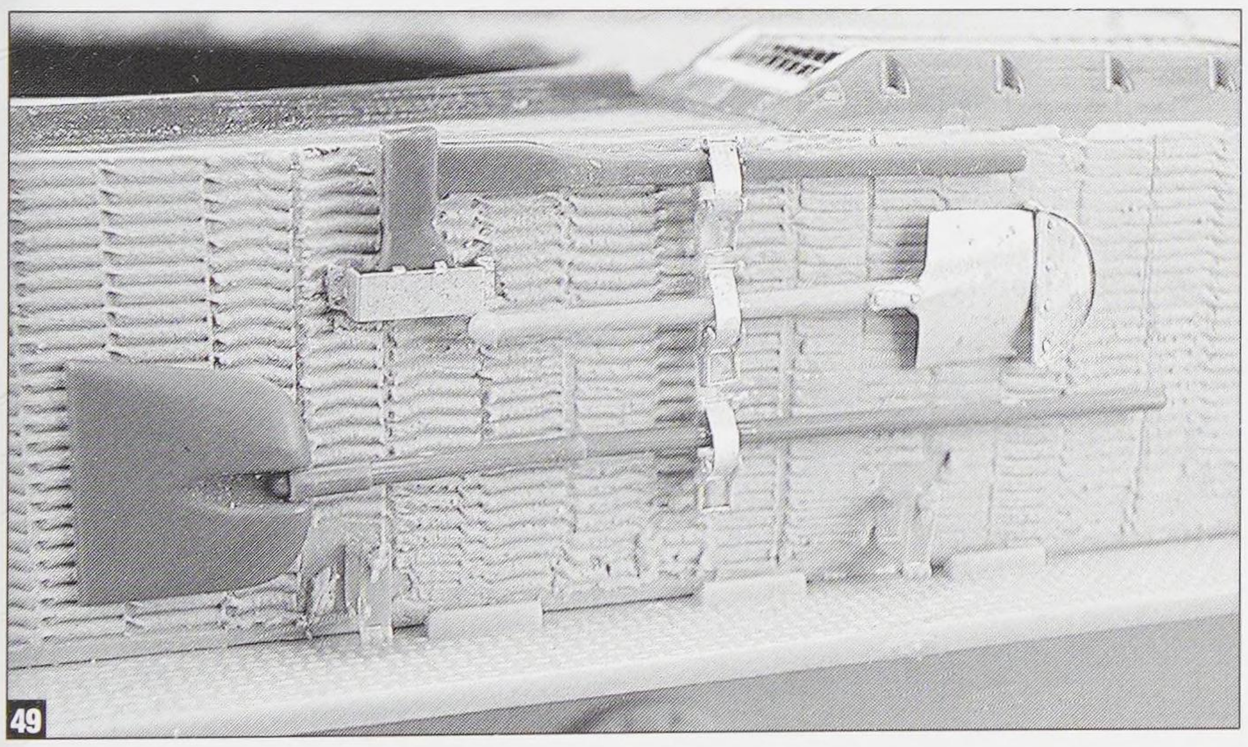

49

another view is seen in **photo 40**.

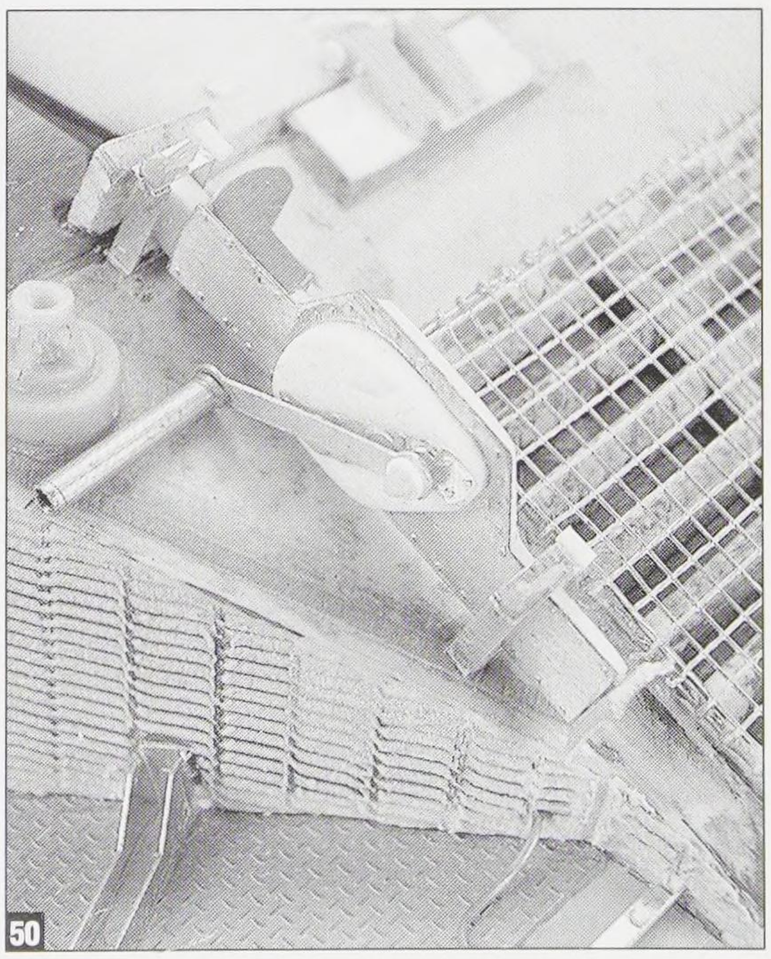
To detail the left rear fender, a Notek light and base was used from the Royal set. The base has been installed in **photo 41**, with the finished light and its lead seen in **photos 42 & 43**.

The last thing done to both the front rear fenders was coating them with zimmerit. This is yet another detail evident in the reference photos. The rear flap is shown in **photo 44** and the front in **photo 45**.

One of the more difficult areas to address on the Ferdinand and the Tiger P is the front headlights. They are the standard Bosch lights seen on all Tigers and other late German tanks, but they both are mounted in a rather peculiar way. A flat plate was welded under the front vision port and the lights were, in turn, mounted to this plate. The wire leads ran back from the light and to a conduit in the same plate. More booty from the Royal set solved this problem in a hurry. Two brass plates are provided along with two really nice resin lights. These resin pieces are complete with the proper bolts on their bases and they are even dimpled to receive the wire lead. The installation sequence of all the parts can be seen in **photos 46-48**.

If you look back at photo 37, you'll notice a white strip of plastic installed on the hull. This is the mounting point for the main tool suite. Interesting point here: the Jentz plans indicate another set of tools installed on the right side of the vehicle, but I can't imagine what they would be. The left side mount has two shovels (large and small), and an axe. The jack and hammer were installed on the rear deck and that leaves little else for the right side. I figured it could have been a crow bar, but it hinges and ModelKasten latch nuts. The jack itself is one of the scratch built Aber jacks described in the general detailing section. This photo also shows one of the two large antenna mounts on the rear deck. They both were drilled out to receive Dragon antennae, which are described later.

The standard sledgehammer was mounted on the right rear hull. According to the plans and photos, this is a slightly shorter version. This was,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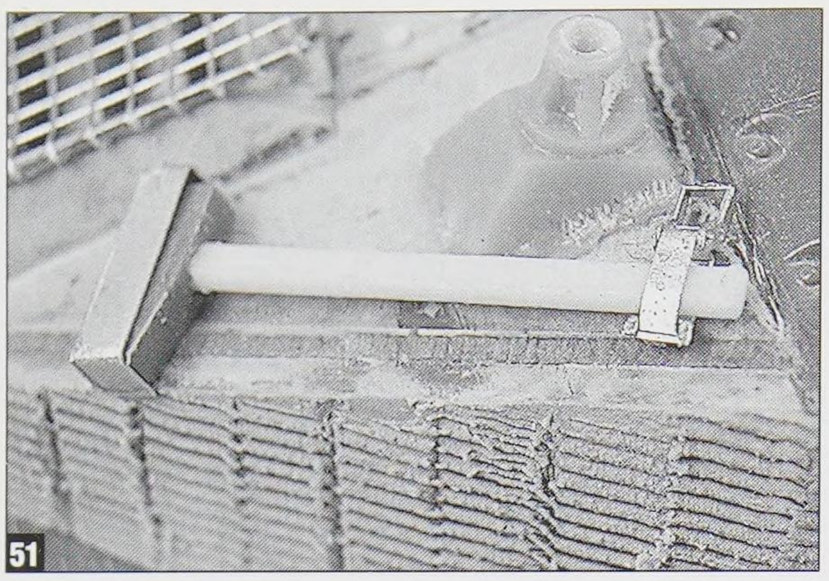
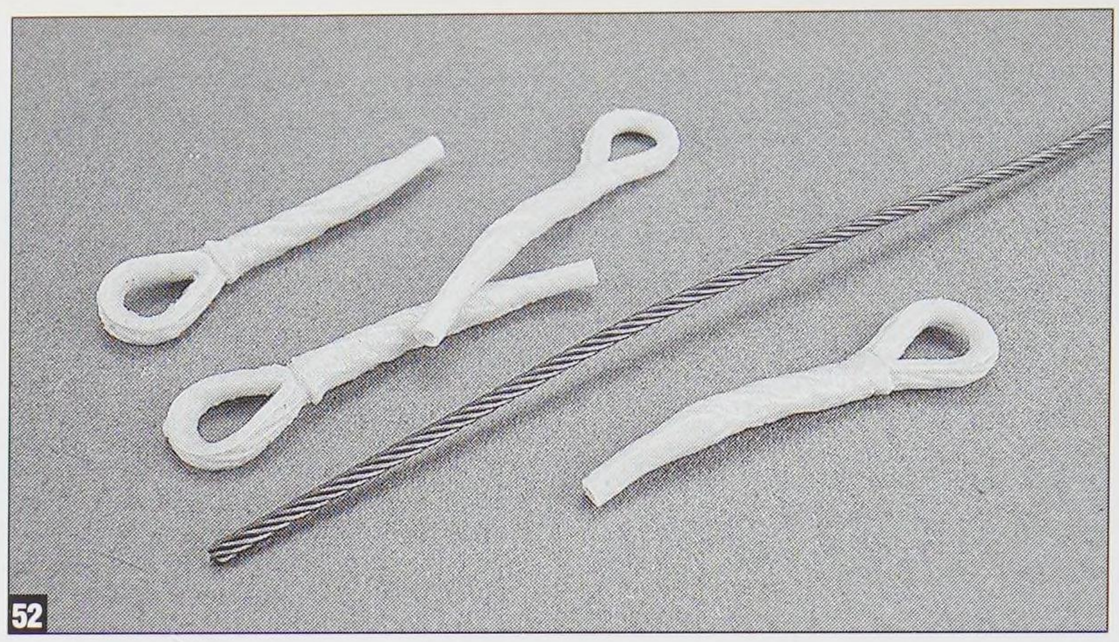
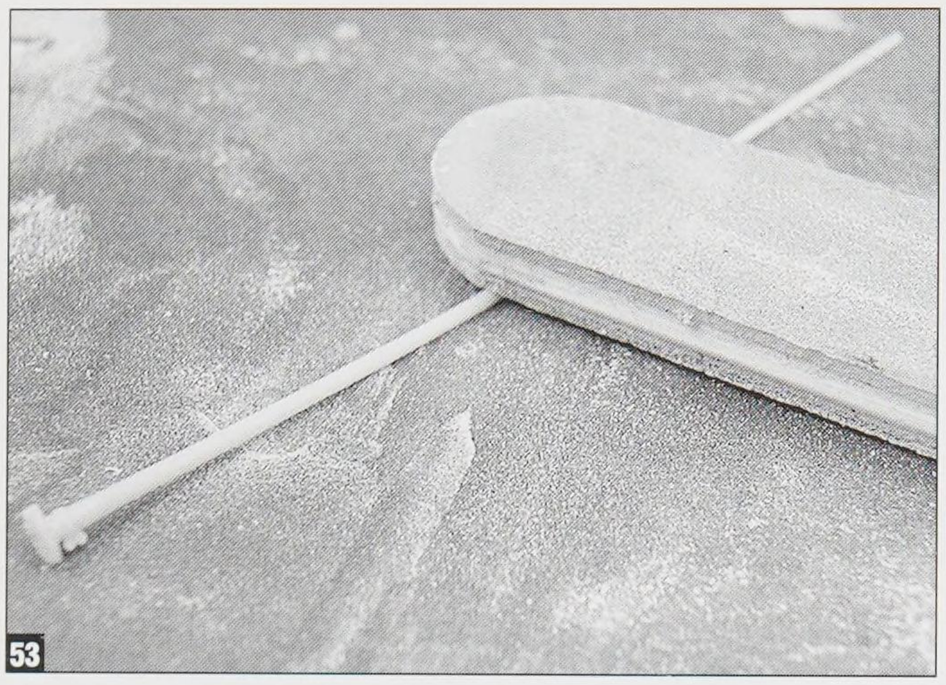
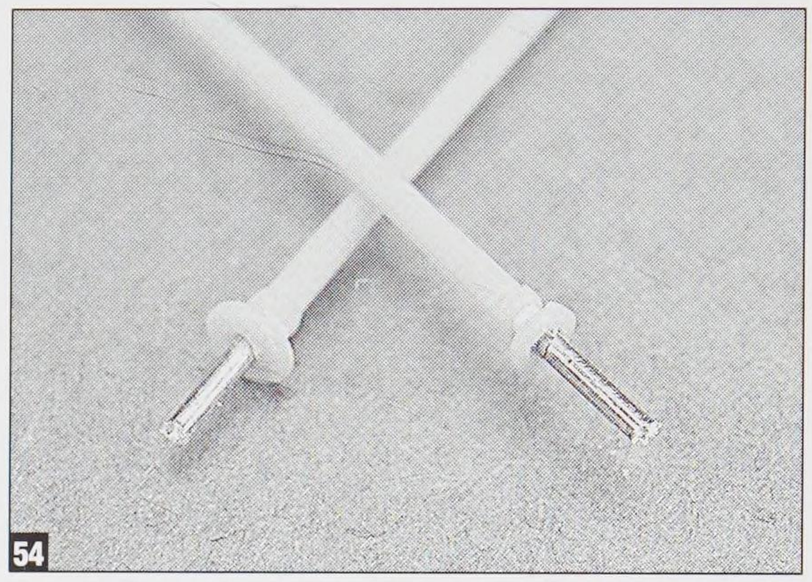








undoubtedly, the same tool used on the StuG. It was necessary to install it at a very slight angle, so that the clasp would clear the large screen housings. This may actually have been the case; it's hard to tell from the photos. All this can be seen in **photo 51**.

As mentioned, when this tank was fielded it was as a Befehlswagen command tank. This required two of the longer style antenna, one of which would sport the "crow's foot" top piece. The only game in town is the terrific Dragon Models set. This contains several different types of aerials and their mounts, as well as photo-

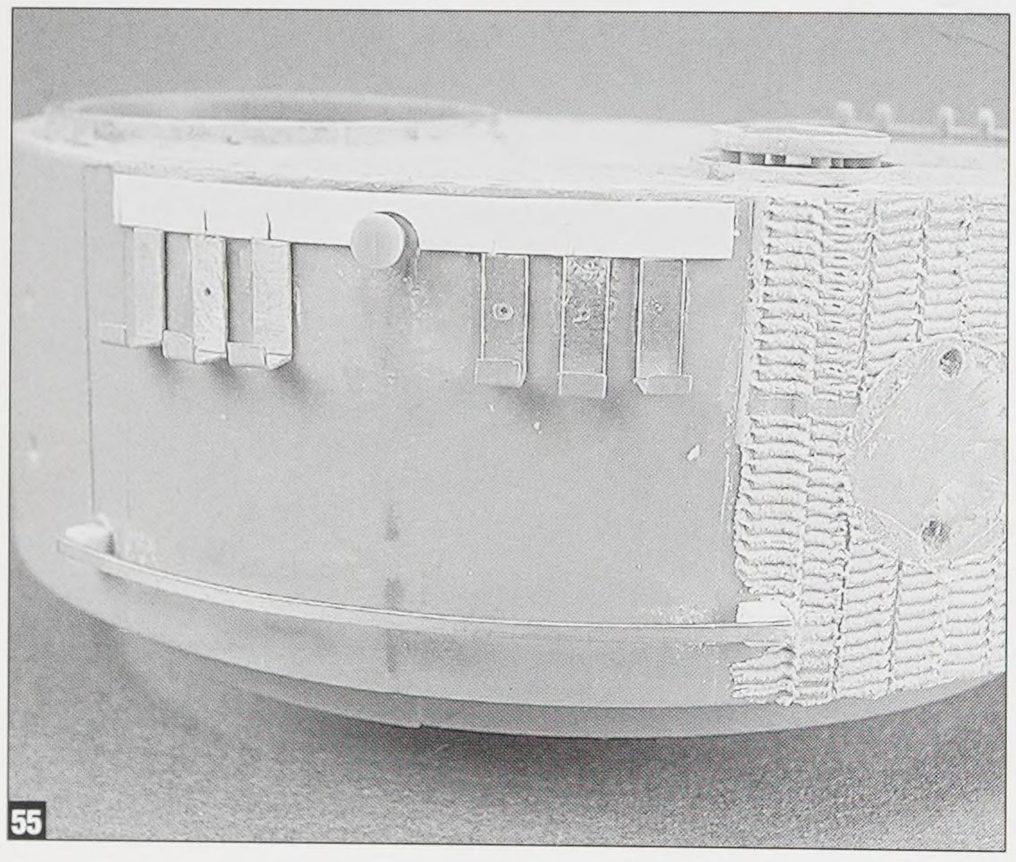
Oh, and it did have a turret

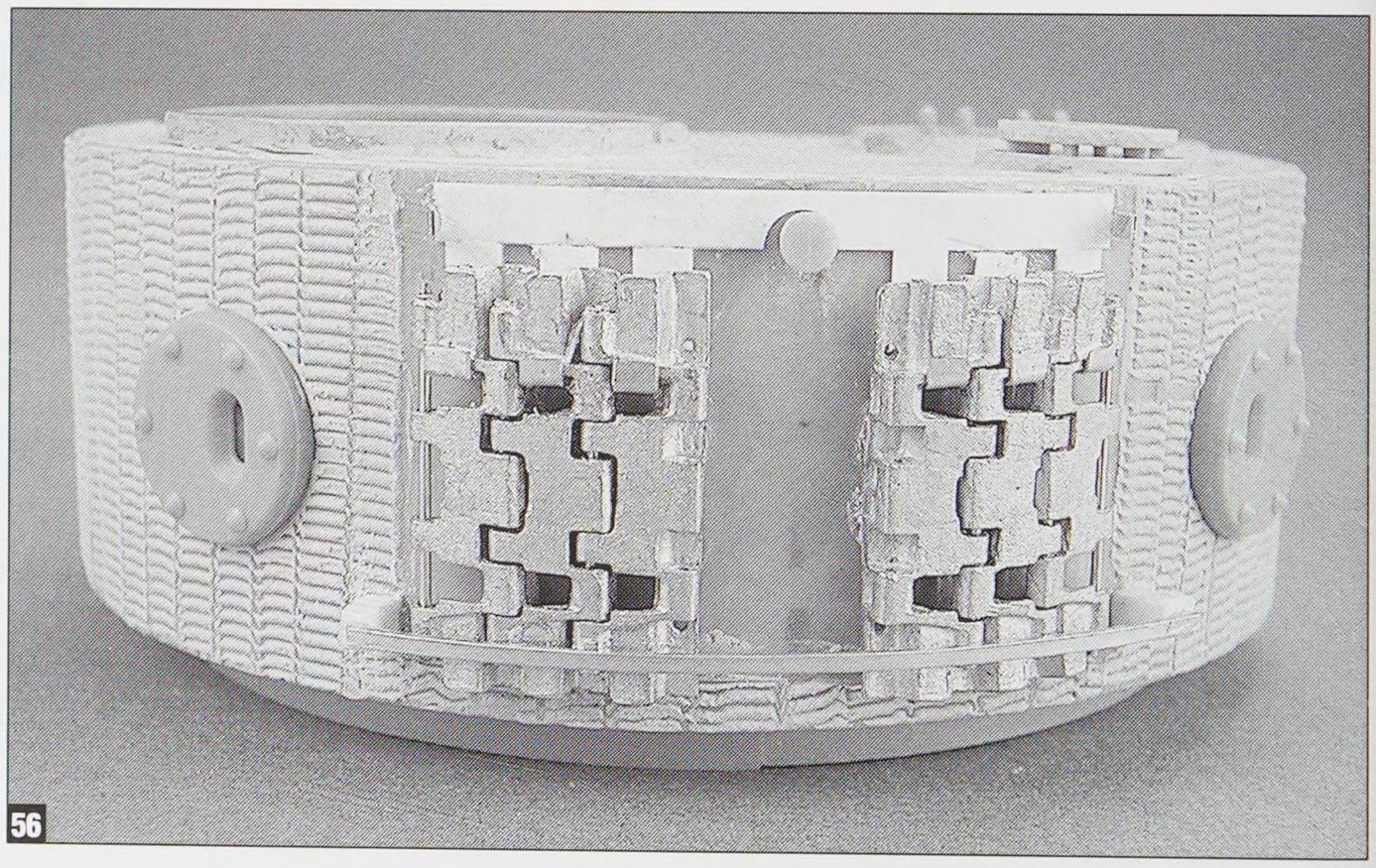
The turret for my model is basic Tamiya. I used the turret from the "Afrika Korps" Tiger, which is the earliest produced by them. It was assembled pretty much right from the box, with one major addition.

The Tiger P used a weird track stowage rack on the back of the turret. Several links were hung on a rack welded to the back of the turret. This rack was then covered by the rear stowage bin, which was hinged to swing out of the way and provide access to the tracks.

I added the top rail first, using a strip of styrene with a half circle punched into it to clear the rear-lifting lug. The Jentz booklet was especially helpful in determining the look of the rack. Next, I added the bottom stop rail, using brass strip and styrene blocks. Friul links were used to constantly check the fit of all the parts.

In **photo 55**, the rack is starting to take shape. The hook portion of the rack is made from scrap brass. It was my original theory that the rack would work like the real thing and the tracks would simply hang on the hooks. However, the photos show that the tracks were actually attached in a single length and hung on the hooks. That proved too





The Tiger P appears to use the same tow cables as the Ferdinand. These were very peculiar in that the heads were encased in some sort of flexible material. In looking at shots of Ferdinands, it appears to be either rubber or rubberized fabric. I was fortunate to find these beautifully cast in resin from a Japanese company called "Mammut" (available through Rainbow Ten in Japan). The heads and the cables are seen in **photo 52**. In addition to the heads, nice looking pre-finished cable is also part of the set. The best part about the heads is that they are pre-shaped to conform to the hull and cable system used on the Ferdinand and the Tiger P. I attached the heads to the model and I intended to thread the finished cable through the attachment system after the model was painted. But, the cable was too stiff and it broke the clamps. The more placid Karaya cable would be a better choice.

etched parts. Injection molding will only yield a part just so thin. I wanted to thin out the part, but I couldn't figure out how to do it without breaking it. I finally hit on a method by using a sanding stick and a flat piece of sandpaper. By taping down the sandpaper, I was able to roll the antenna against it with the sanding stick. All this was done with a little water to keep down the dust. This also makes for a smoother finish. The antenna can also be held in place and sanded along its length to remove the small amount of flash present. I'm hard at work at this in **photo 53**.

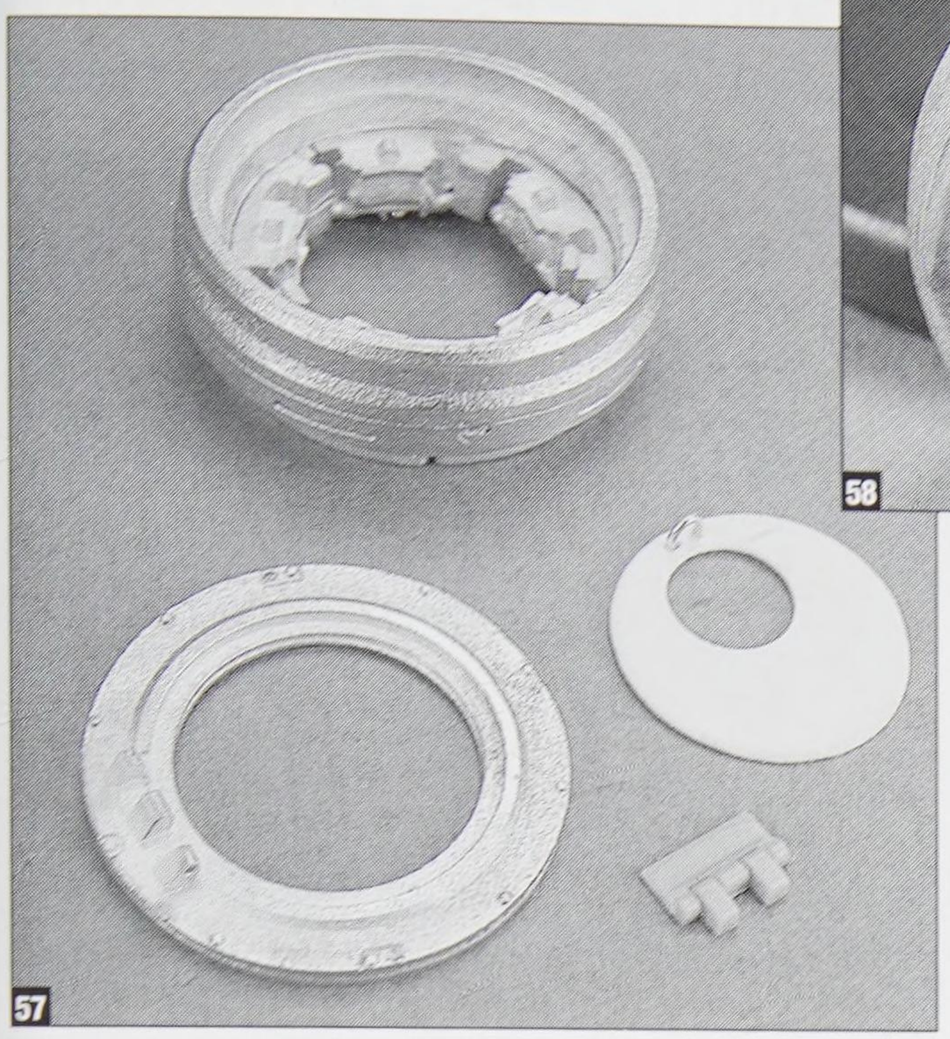
The finished antennae are super delicate, so they were both drilled and pinned with brass stock (**photo 54**). This way they can be painted and weathered off the model, saving a fair amount of potential tears!

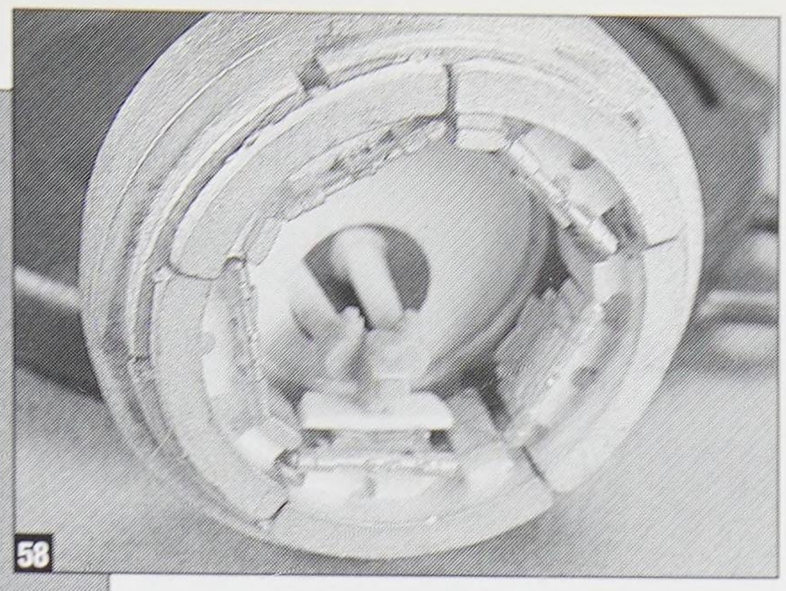
difficult for me and besides, this area will barely be visible with the stowage box installed.

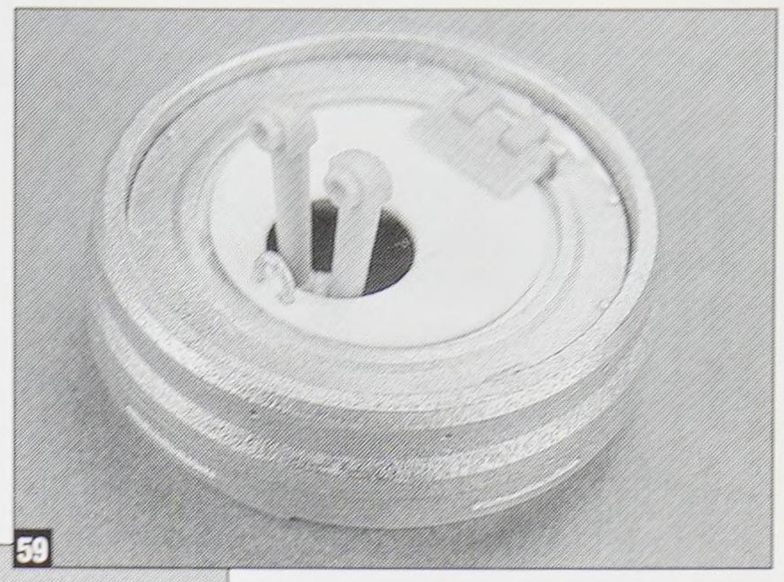
Photo 56 shows the completed rack. The links were simply glued to the turret in the correct location and the "hooks" were slid into the links. Works for me... I have also begun applying Zimmerit in photo 55 and a fuller description of its application can be found in the color section.

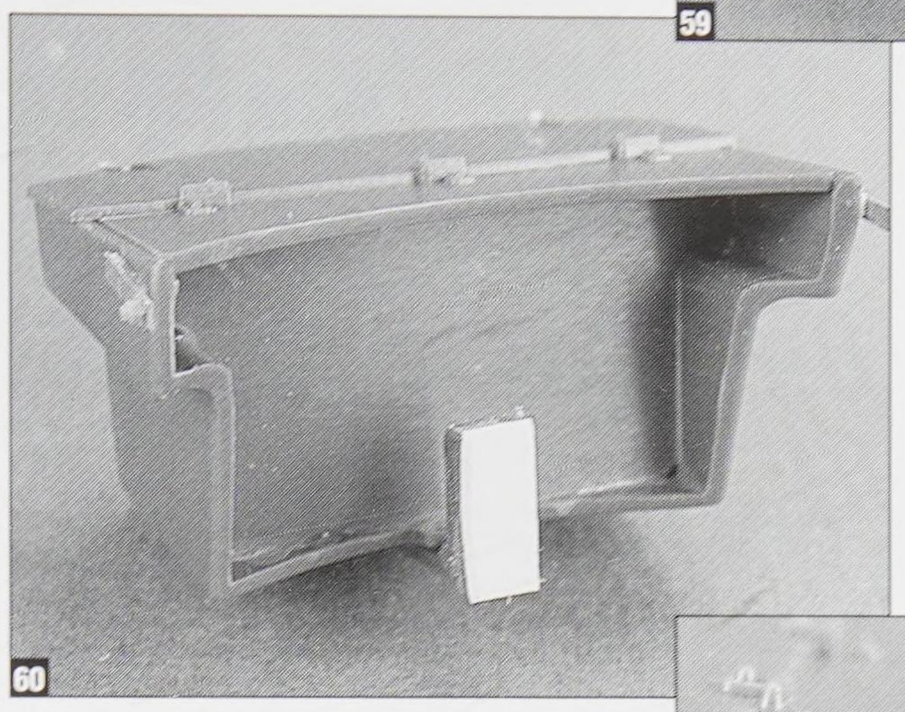
Photos of the actual vehicle show that the rear pistol ports faced in, rather than out like a standard Tiger. This was simply a matter of turning the Tamiya parts over.

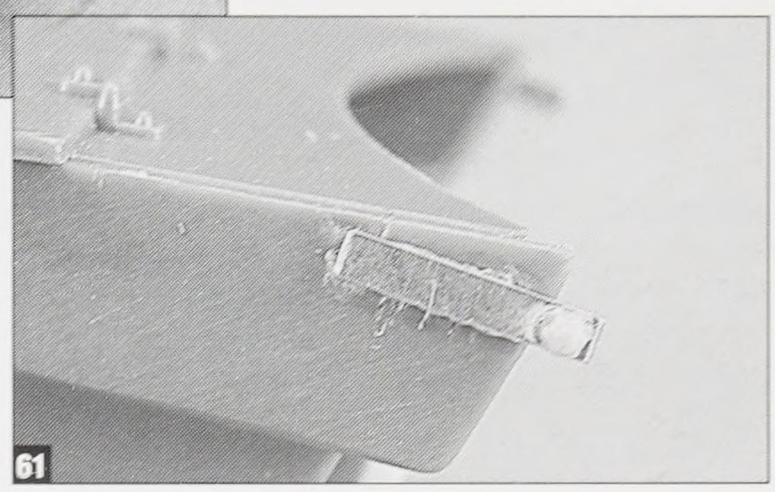
The turret utilized the same type of cupola as the Tiger I prototype. This was the type without the spring loaded, double hinged hatch. The hatch simply flipped over. The center portion of the hatch was also rotated so that the hinge faced the rear of the turret. Since the operational Tiger P was

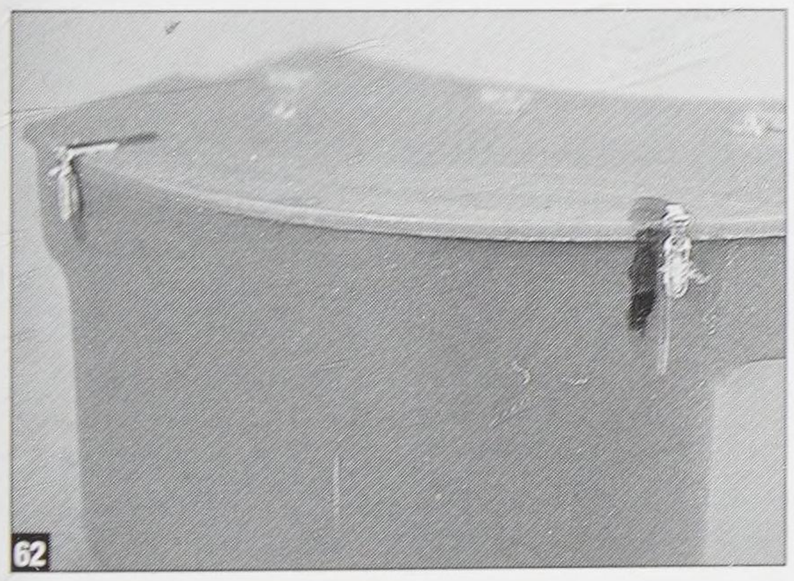


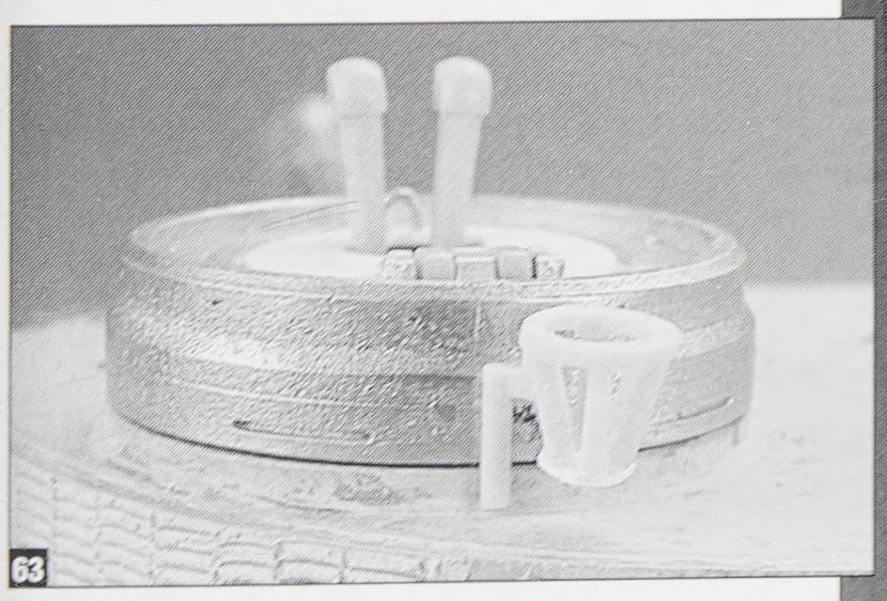


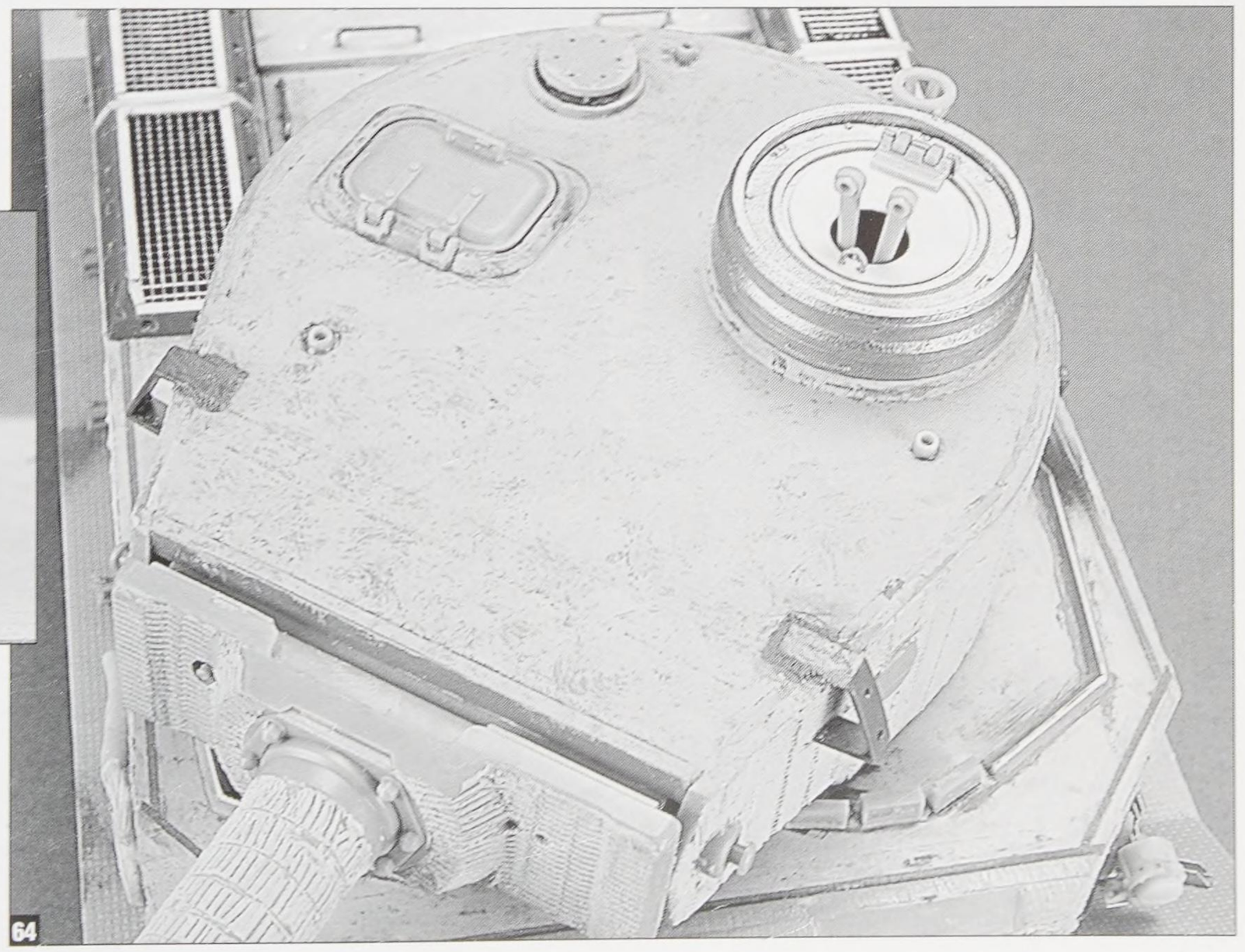












After June 1944, all Tiger turrets were manufactured with sockets on their roofs for the mounting of a small crane assembly. These sockets were also to be retrofitted to all tanks manufactured prior to the date of introduction. The Jentz plans show them installed and I took them from a spare late turret roof. They were carefully reinstalled on the new turret using liquid glue. The complete turret is shown in **photo 64**. The photos of the vehicle in the field show smoke launcher brackets installed on the turret, but not the launchers themselves (they were discontinued in June of 1943). Brackets were taken from a Tamiya kit and thinned down as previously described.

outfitted as a Befehlswagen, it had a scissors periscope mounted in a large hole in the hatch, too.

I used the excellent white metal ModelKasten replacement cupola for a number of reasons. First, it comes broken down in many parts, so making all the modifications was a bit easier. Also, since the hatch had that large hole, I thought the detailed interior of the part would show a little.

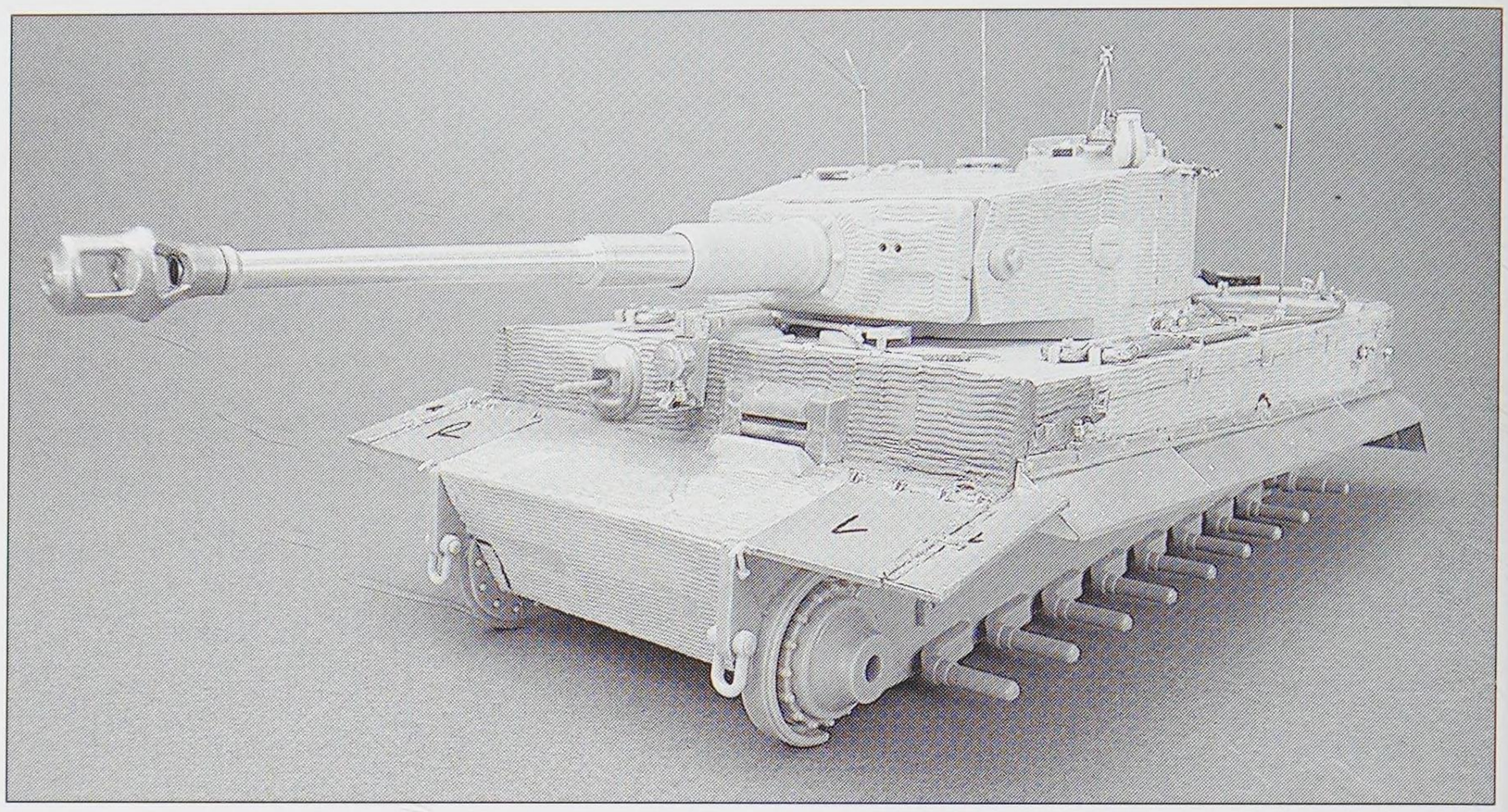
Removing one of the two double hinges modified the top of the cupola and a hinge was carefully separated from a Tamiya hatch to use on the new hatch lid. This was made by carefully scribing sheet styrene with a metal template and then gently rounding the edges with sandpaper. The large hole was made with my old Tech Star large size punch and die set, and the small hatch handle was made from brass wire. All of the modified parts are seen in **photo 57**.

The scissors periscope was taken from a Tamiya StuG kit and it was installed on a plate glued onto one of the forward periscopes (**photo 58**). The completed cupola can be seen in **photo 59**.

As mentioned, the rear turret stowage box was hinged to swing out of the way of the spare track rack. I used the Italeri bin, which is actually pretty good, except for a few small details. In order to keep it at the correct angle it was necessary to shim the base with scrap plastic (**photo 60**). Hinges were made from brass strip and Grandt Line nuts (**photo 61**). The rear of the bin was detailed with Royal clasps (**photo 62**).

Many Befehlswagens, especially Panzer III and IV based vehicles, had an armored signal basket at the rear of the turret cupola. The Tiger P also had this feature and one was snatched from a DML Panzer III kit and installed on the turret (**photo 63**).

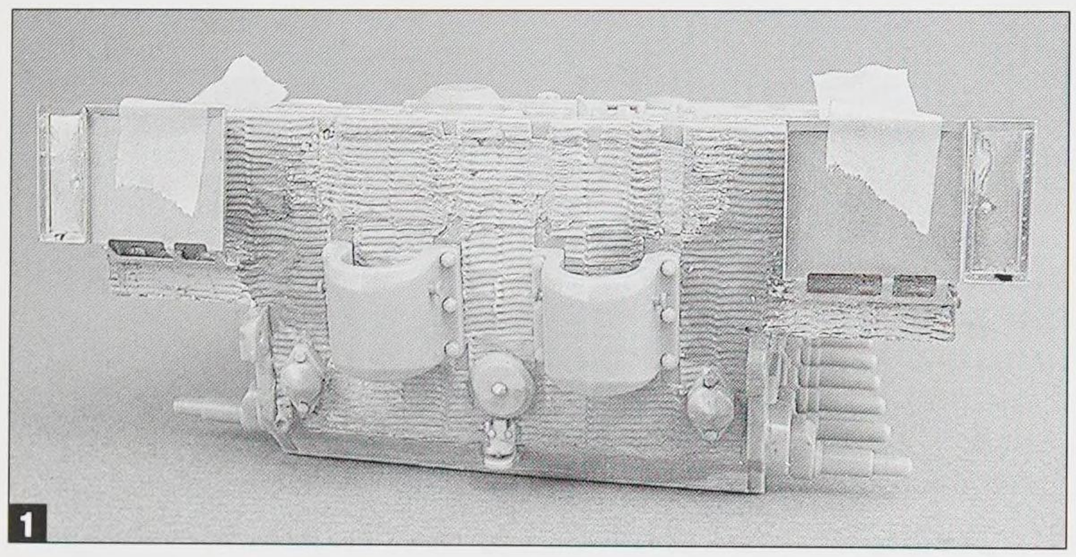
Panzerkampfwagen Tiger Ausf. E - Fgst. Nr. 250802



Hold on, I'm taking a huge leap to January 1944. This is a bit of a drastic move forward in the development of the Tiger, but I guess I had to draw the line somewhere. A lot has happened to the Tiger by this time. First, it got a larger engine in May of 1943, then it got a whole new turret in July of 1943. By this time, it also had a whole new name, Panzerkampfwagen Tiger Ausf E. (changed in May) We modelers like to think of these as "mid production" tanks and give or take a few weeks, that's about right.

I also picked this model because it's the next in chronological progression from Tamiya. Their first foray into mid production was the so-called "Otto Carius" Tiger I, stock number 35202. This was a nifty little package that contained a detailed history of this 502 ace, as well as a sprue with him and a couple of his buddies looking a map.

The kit was later released without all the goodies as kit 35194. This is the kit that I used as the basis of my model.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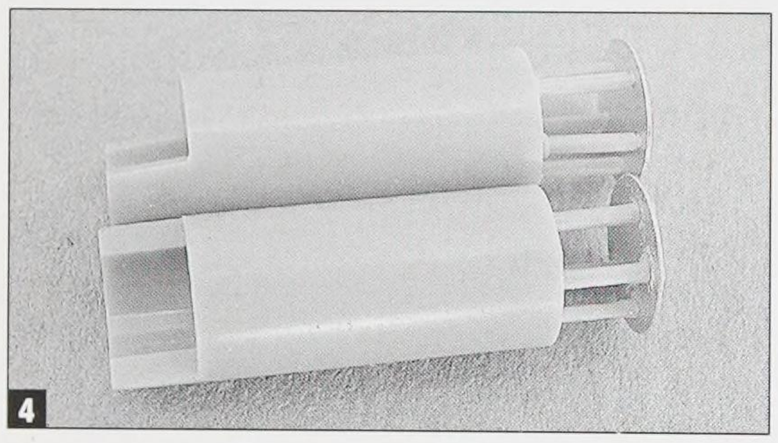
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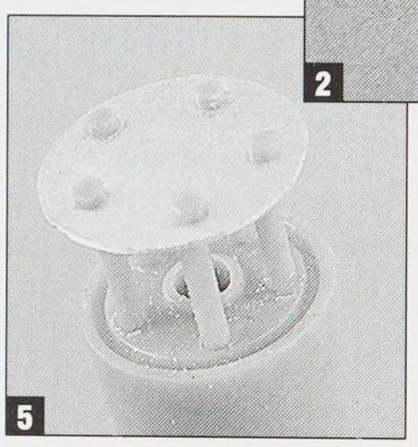
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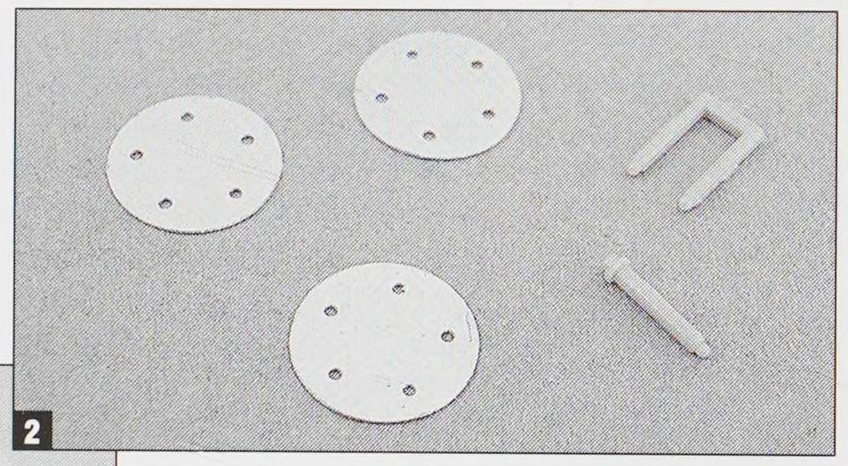
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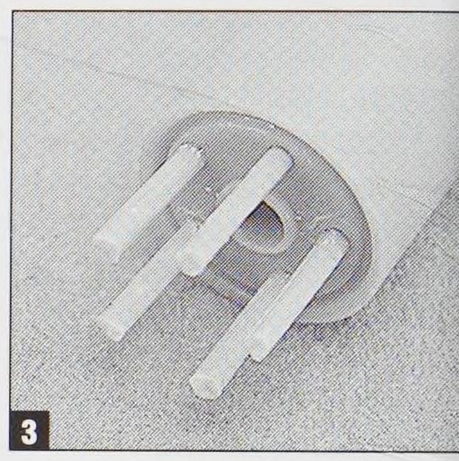
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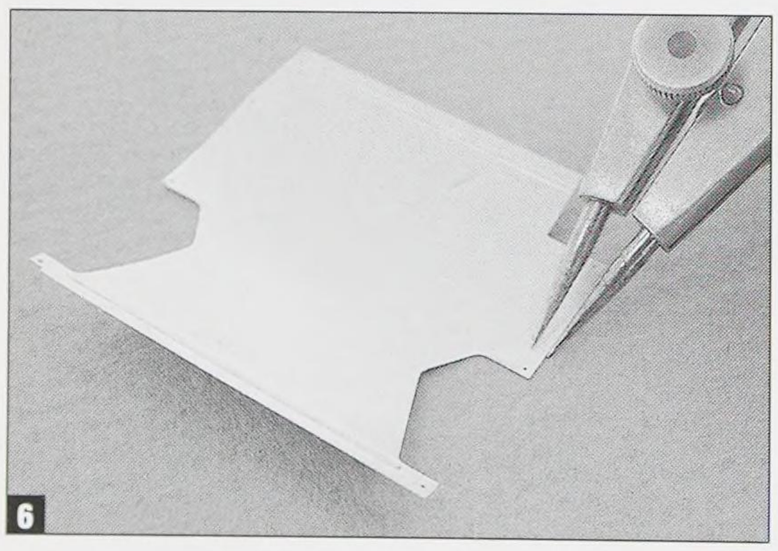
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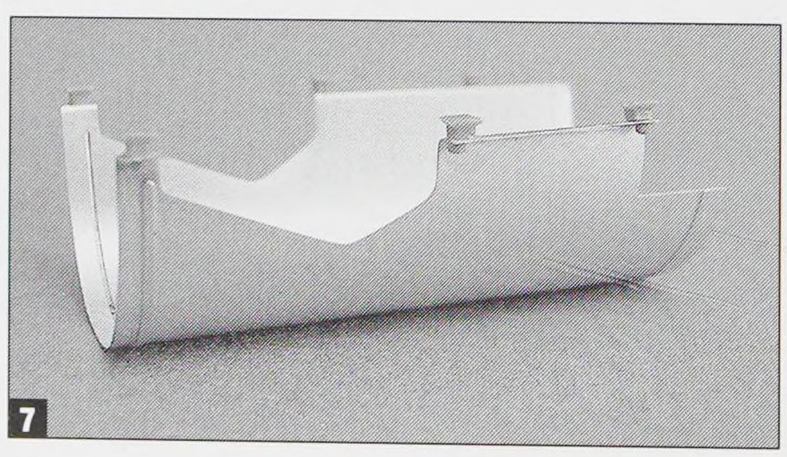
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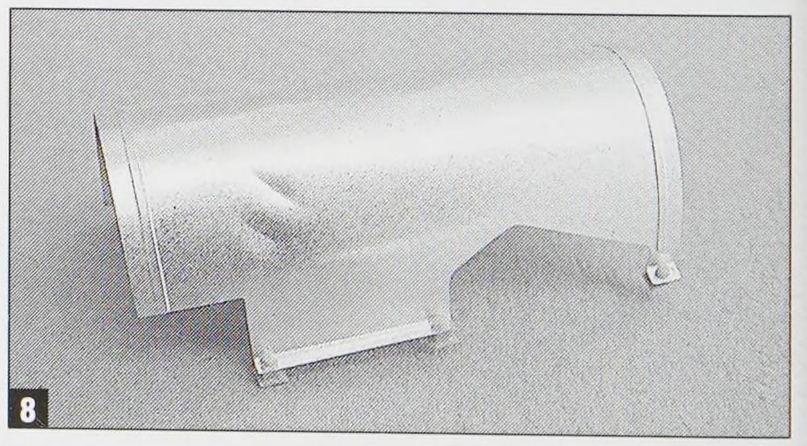
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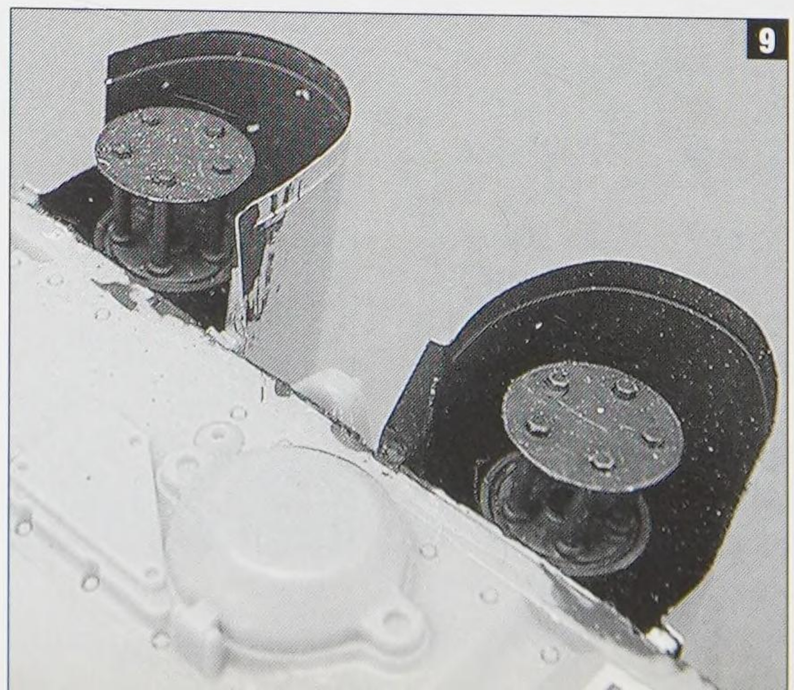
I also chose to build this tank as a Befehlswagen for a couple of reasons. First, there is a great set of plans in the Jentz book depicting a January 1944 Befehlswagen. Secondly, it just so happens that the company commander's tank in the SS s.PzAbt. 101 was a January 1944 Befehlswagen—with rubber rimmed wheels, no less (or so I thought), at least according to *Tigers in Combat II*. This tank was tactical number 007 and was the mount of the battalion commander, until it was inherited by none other than Panzer Ace Michael Wittman. In fact, this was the tank he was riding in when he was killed. This is not to be confused with the tank he ravaged the Brits with. He took over 007 not long after this on July 13th, 1944 when the battalion commander was sent to the rear for rest. There were actually three tanks in the command group, 007, 008 and 009. The latter was a steel-wheeled Tiger I.

The next three models share a great deal of similarities. Because of this, I'll be spreading out some of the things I did to all of them among the next three features. Hopefully, this way, it won't get too boring. Let's begin, shall we?

Bringing up the rear

All of the later Tiger I's in this book utilize the Cavalier Zimmerit sets. I like these sets. The resin parts are amazingly thin, they are held onto their carrier sheets with just static electricity and they are very easy to trim out. The instructions recommend the use of a two-part epoxy to install the sheets and so do I. Superglue will work, but it gives you no set-up time at all. I use a Pacer two-part epoxy product that cleans up with alcohol. Tamiya acrylic thinner works just fine, too. One of the other advantages of the Cavalier sheets it that many of the real small parts on the kit are molded right into the panels. The rear panels include all the access ports and the side panels have all the fender attachment bolts.

The only down side to the sets is that they are designed to be used on a stock kit. They still have all the various holes for the cables and other plastic doo-dads provided in the kit. This would normally not be a problem, except that I was filling all that stuff in preparation for super detailing. Also, there is just the one set for the later Tiger I, meaning slightly more filling for earlier versions. It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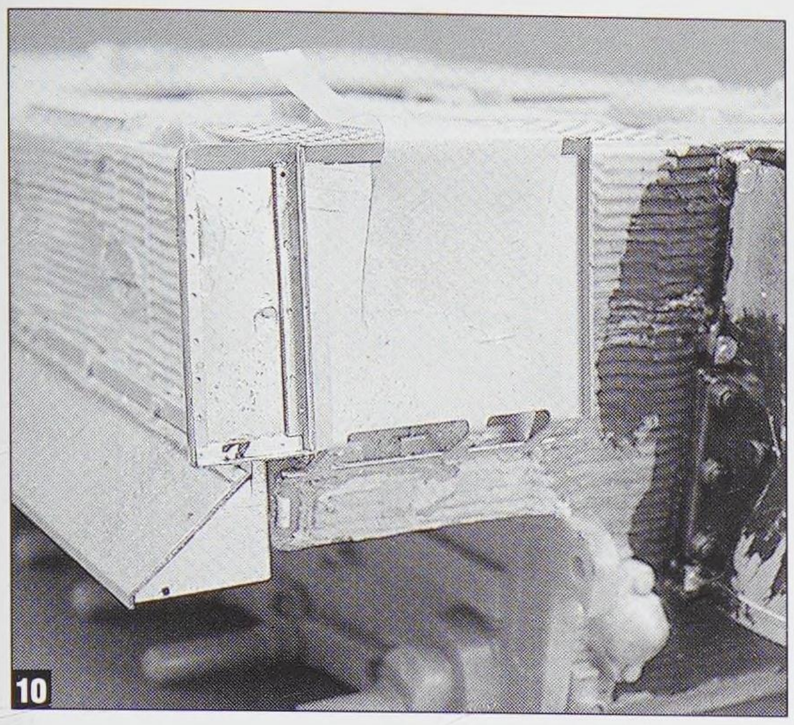
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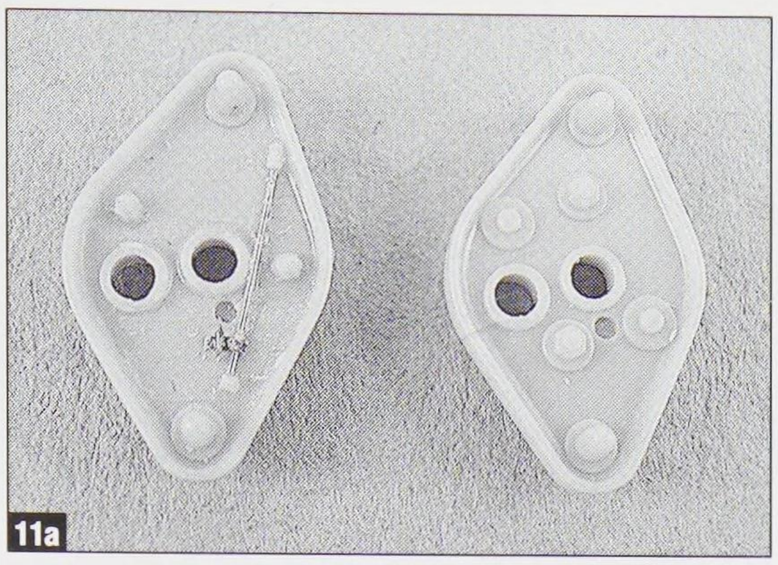
would be cool if they did just a "solid" set.

To fill all the gaps and holes, I used red putty, but on the larger areas, like the rear, I used the Tamiya Polyester putty and Zimmerit tools (see general detailing section). I'm just about done with the rear hull in **photo 1**.

This is also the first tank with the final exhaust stack design (first seen in October 1943). This is in all the later Tamiya kits. The covers for the tops provided are extremely thick, so I took the Aber route. To hold 'em up, I thought about using thin rod, but I didn't think that I would be able to get them all an identical length. I decided to use the support rods supplied in the kit. There are two types, a sort of double C-shaped one and a single one. The single one has a highly useful post and flange on one end and another post on the other. These work great because they'll all line up on the top of the exhaust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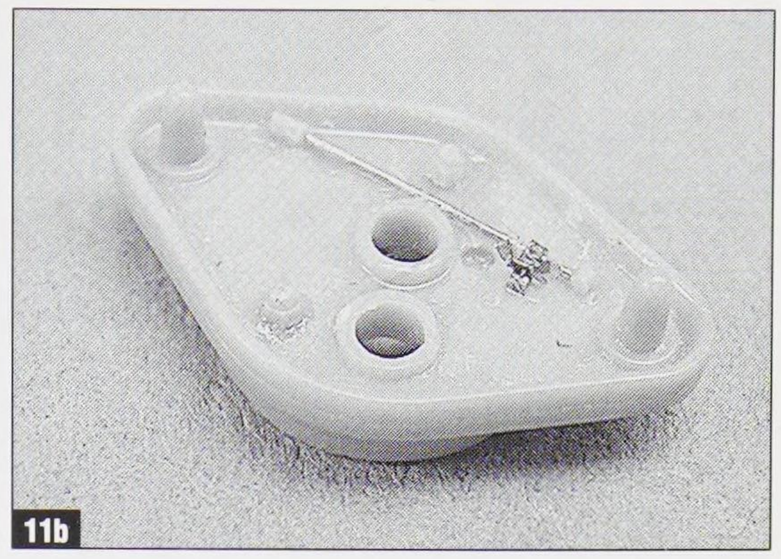
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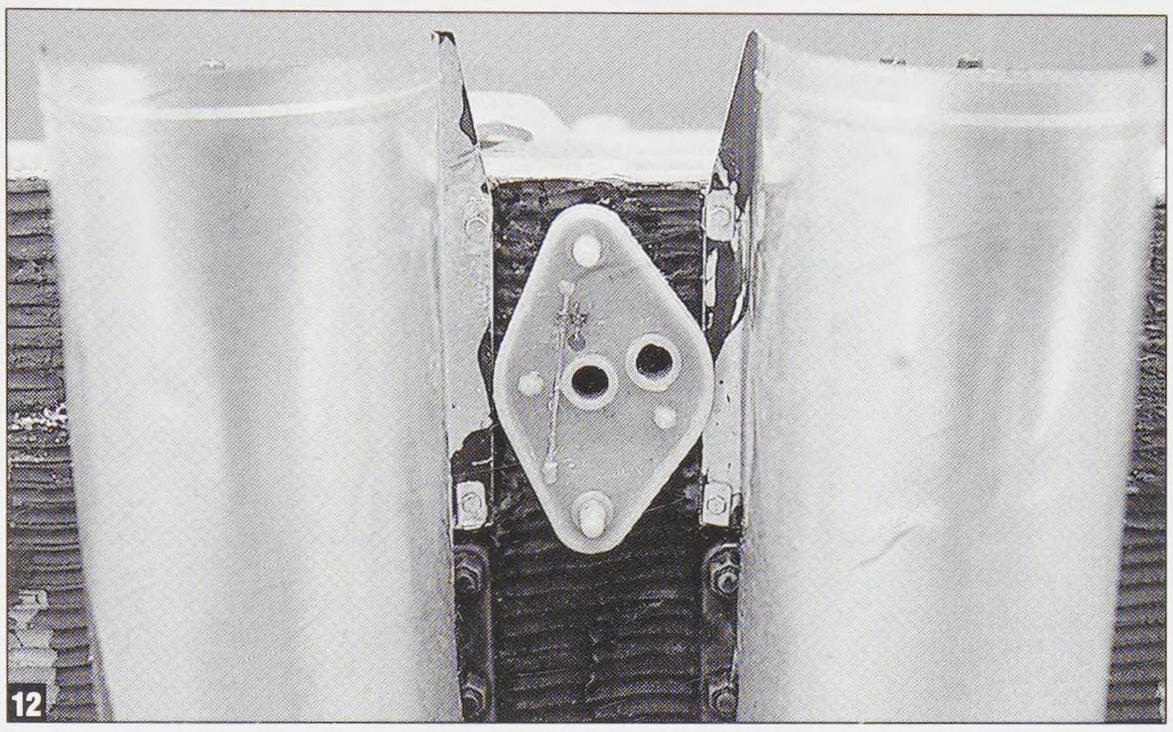
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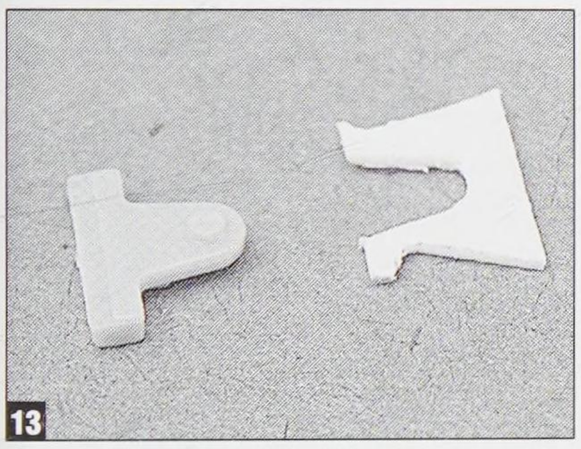
set of rubber rimmed roadwheels. **Photo 7** shows them installed on the part. At this point, I had mistakenly added Grandt Line rivets to the front of the part. These were later replaced with the proper rectangu-

and the areas underneath also required a little touch up. I needed to be able to gauge the fit of the fender against the putty, so I installed the fenders and left them workable. A bit of Tamiya tape helped to keep them out of the way (**photo 10**).

Tamiya actually offers a couple of versions of the engine starter plate, but, oddly, not one for the mid-production version. Using the drawings in this book, I modified the later plate to the form seen in **photo 11b** (**photo 11a** shows the new and old parts side by side). There's two new Grandt Line nuts in there and a very thin section of brass rod.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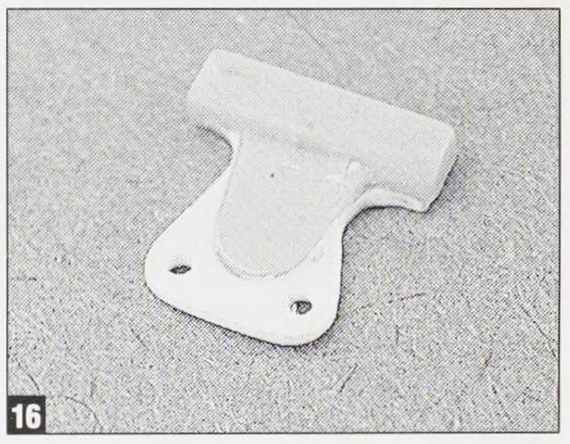
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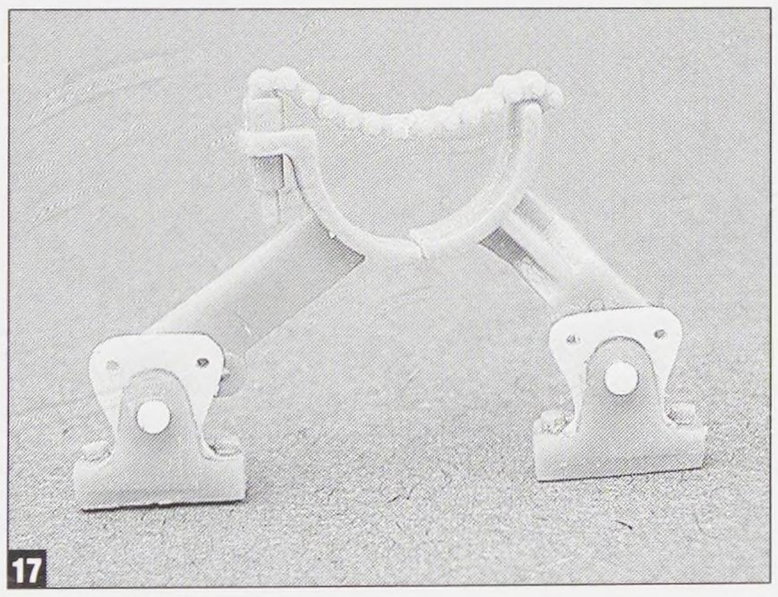
stack (flange down) and the tops will neatly receive the Aber part. These and the Aber parts can be seen in **photo 2**. Unfortunately, there are only so many of the single ones available. So I also used the other ones, cutting them down to receive the brass tops (**photo 3**). The end result was about the same, with the cut down ones being a bit shorter (**photo 4**). Regardless, the final version was topped off with Grandt Line nuts as shown in **photo 5**.

This model is also the first foray into the Aber exhaust shields. These became a production feature way back in January of 1943. The idea was to shield the red-hot exhaust stacks and the occasional flame that shot out. The shields are not part of the overall Aber set for the Tiger I. They must be purchased separately as fret 35 A12. The Aber shield part is served up flat and it not only needs to be rolled into the proper semi-circle, its edges need to be squared to match the hull. There is only a single indicator of how much of the part to bend. This is the lower inside corner of the sheet. I copied this measurement with my dividers onto the other surfaces and then, using a bending tool, formed a 90 degree bend on each side (**photo 6**).

The panels were fastened to the tank with the same (or very similar) bolts that attached the side fenders. I had these aplenty from the ModelKasten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lar flange and bolt arrangement provided in the Aber set. **Photo 8** shows one of the big advantages of the brass part, the ability to damage it realistically.

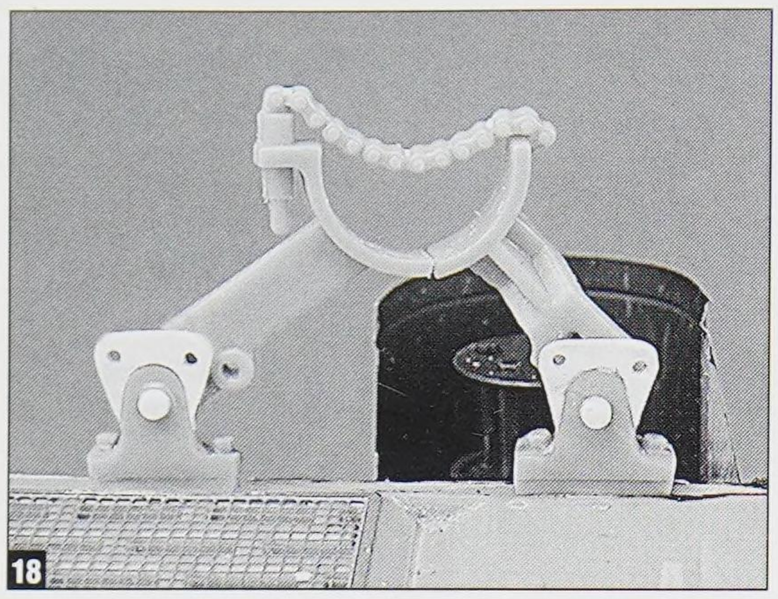
The finished parts are actually a trick to install. Getting them to sit flat against the hull takes a fair amount of wrangling and I even scored the inner edge of the armor exhaust shield with a razor saw to improve the fit (this can't be seen when complete). Prior to installing the shields, the stacks and the insides of the shields were painted flat black (**photo 9**). There's no way paint is getting down in there later.

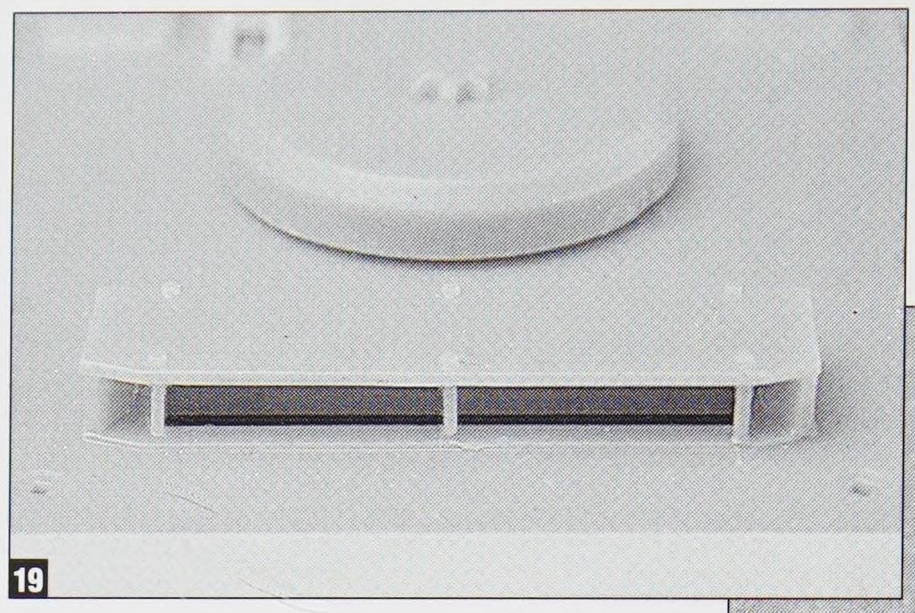
I have installed the Aber fenders at this stage

The rod is held in place with a foil clasp, which also has a super-mini wing nut on it. This may be the smallest part I've ever made. Squeezing a very thin piece of copper wire with pliers formed the "wings." It can be seen installed on the hull in **photo 12**. Also visible here are the correct brass flanges for the exhaust shields.

A rear mounted gun travel lock was introduced in November of 1943 (and promptly eliminated in late February of 1944). This is in the Tamiya kit, but it does contain some small inaccuracies. Most of it involves the base pieces. Tamiya has rendered then as simple, rounded triangles. This is partially correct, as the back of the actual part is a bit more complex. Again, using the drawings in this book (they're handy, huh?), I began to modify the kit part using sheet styrene. First, I cut a piece of similar thickness stock roughly to the outside shape of the new part and traced the shape of the old part into it (**photo 13**). These two parts were then mated together and the gaps were filled with gap-filling superglue (**photo 14**). Once I was satisfied that the parts were mated seamlessly, I started to form the lower edges of the part (**photo 15**). Once final shaping was complete, I drilled two holes in the part, according to the drawings (**photo 16**).

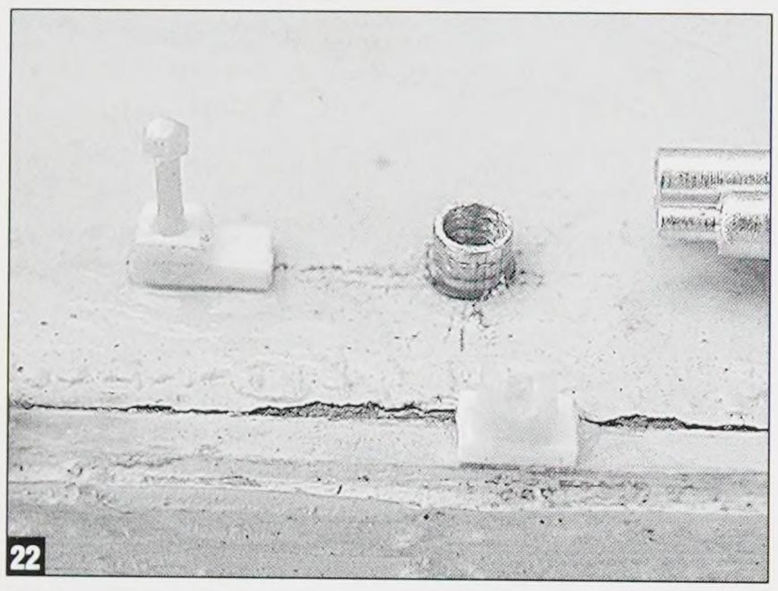
The finished lock is seen in **photo 17**. Here, I have also added bolt heads on either side of the





base. This was how the unit was attached to the hull. The lower half of the lock is actually two parts, so I cut through it with a razor saw. On the real lock, this cut is a "key cut," i.e. one part of the cut notches into the other (*check out the drawings on page 43*). I didn't do this because you'd need two locks just to make the one part. **Photo 18** shows the lock assembly installed in its proper location on the back of the hull.

A big 'ol vent cover replaced the Feifel array back in October 1943. This is in the Tamiya kit, but it is missing its supports. These correspond to the six raised rivets on its upper surface. I used thin sprue to replicate these and they are shown in **photo 19**.

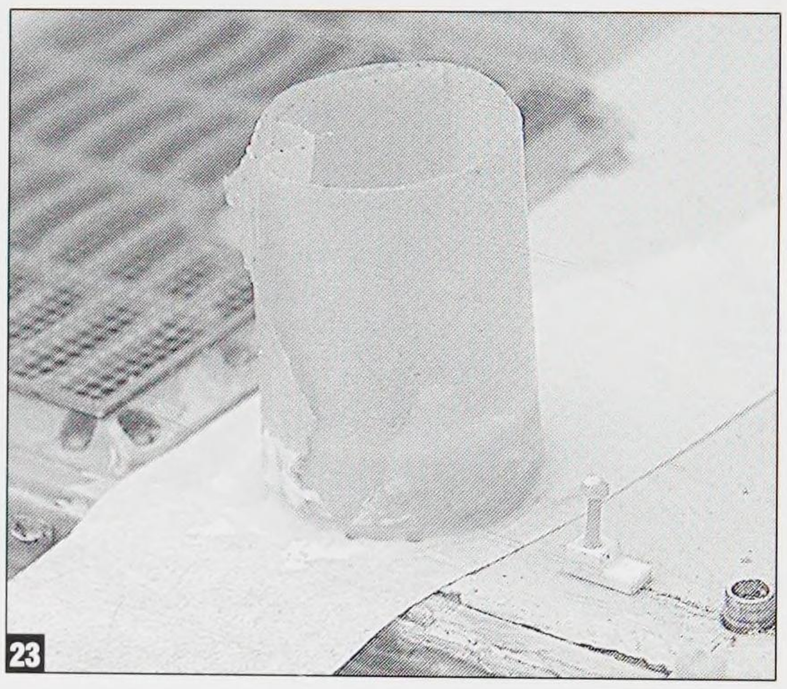


Radio days

There is a fair amount of work to do to turn this baby into a Befehlswagen. First, I have some bad news. Almost every kit of a German tank has the wrong antenna mount for the standard Fu 5 radio. Yep, it's true. Most of the kits out there, including Tamiya, simply give you the insulated base. This is actually only half of what should be there. On the real thing, this rubber insulator has a short section of rod emanating from it. This is where the antenna installs. The antenna itself is hollow on the bottom. It slides down over the rod and is tightened with a collar. On early radios, this collar simply had a bolt, while later ones had a small wing nut. Now, you can add the rod (which some kits have), but you still don't have the antenna.

What to do? Well, even though many Dragon kits suffer from the above-mentioned affliction, DML makes the most fabulous antenna set out there. This set is also included in all of their command tanks, such as the Panther, the Panzer III and the Jagdtiger. You get antennas, mounts and the whole shebang. The antennas themselves are also included as styrene parts, but they require a lot of sanding to thin down and they break easily (see the previous chapter on the Tiger P). I used only the base of the antenna and the matching insulator, drilling out the base to receive a tapered brass antenna (how I made the antenna itself is covered in the next chapter).

What makes a Befehlswagen a Befehlswagen is the additional radios inside the vehicle. In addition to the Fu 5 radio set, there is also a Fu 7 and a Fu 8 set inside. The Fu 5 antenna moves to the turret roof, while the star antenna for the Fu 8 takes its place. The antenna for the Fu 7 is installed on the opposite side.



The Fu 8 antenna has a large, ceramic insulator at its base and an armored pot protected this. All of the components, except the pot are in the DML set. For the pot, I scrounged and scrounged until I came up with a fitting from a Tank Workshop railcar. I hollowed it out and all of the finished components can be seen in **photo 20** (finally).

There are several little bits and bobs near the Fu 8 mount, as well. One of them is a mount for a mast to give the Fu 8 extra range. This is actually two parts, a hinged tube with a clamp and another stationary tube below it. This hinged tube/clamp was another one of the smallest parts I have ever scratchbuilt. I used a short section of brass tubing, a bit of styrene and a spare hinge from one of the Royal detailing sets. It was almost too small to photograph, but it can be seen in **photo 21**.

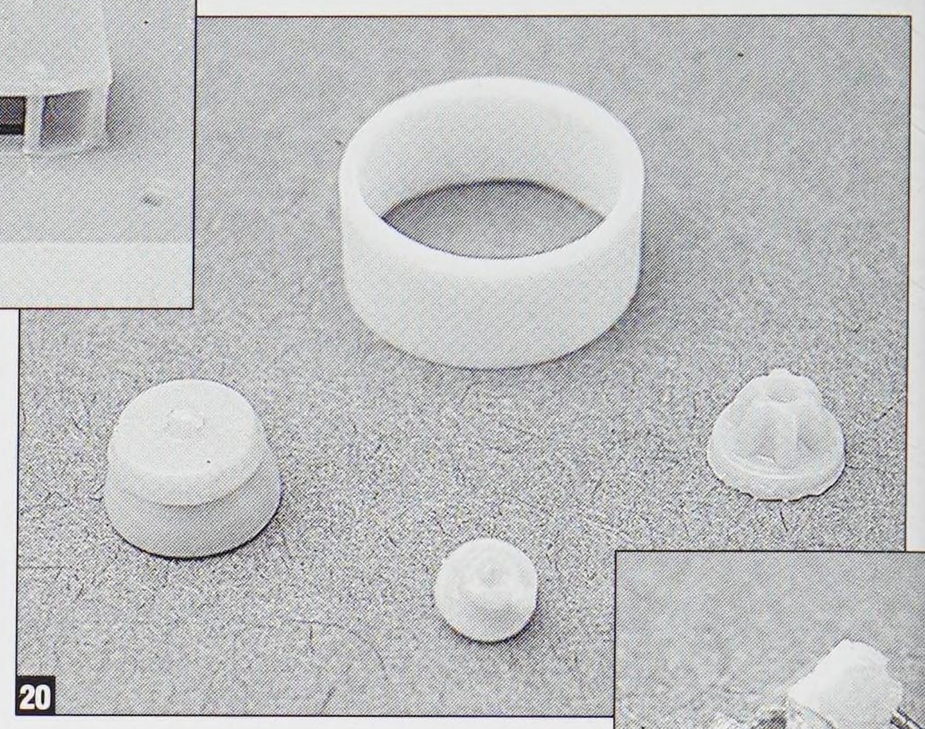
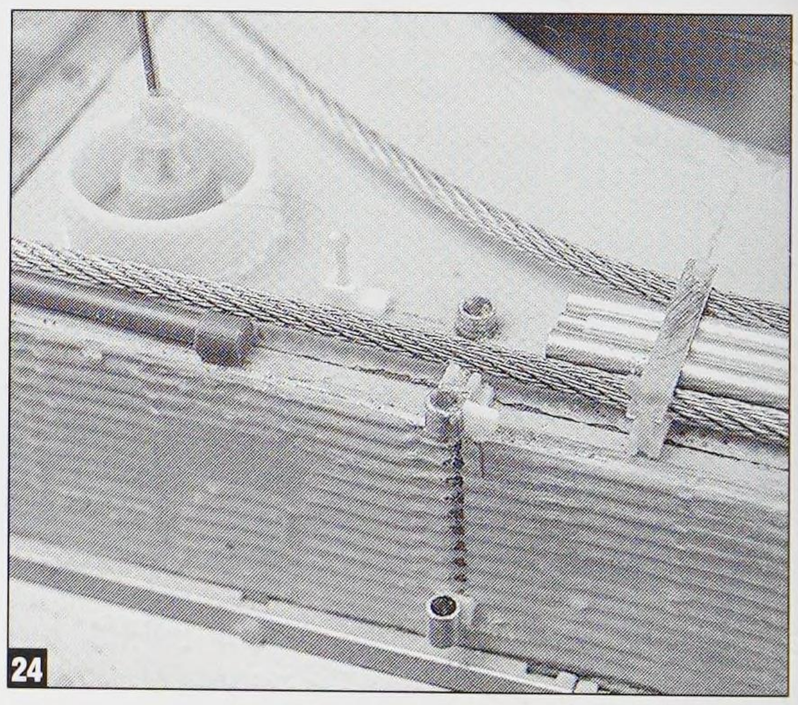
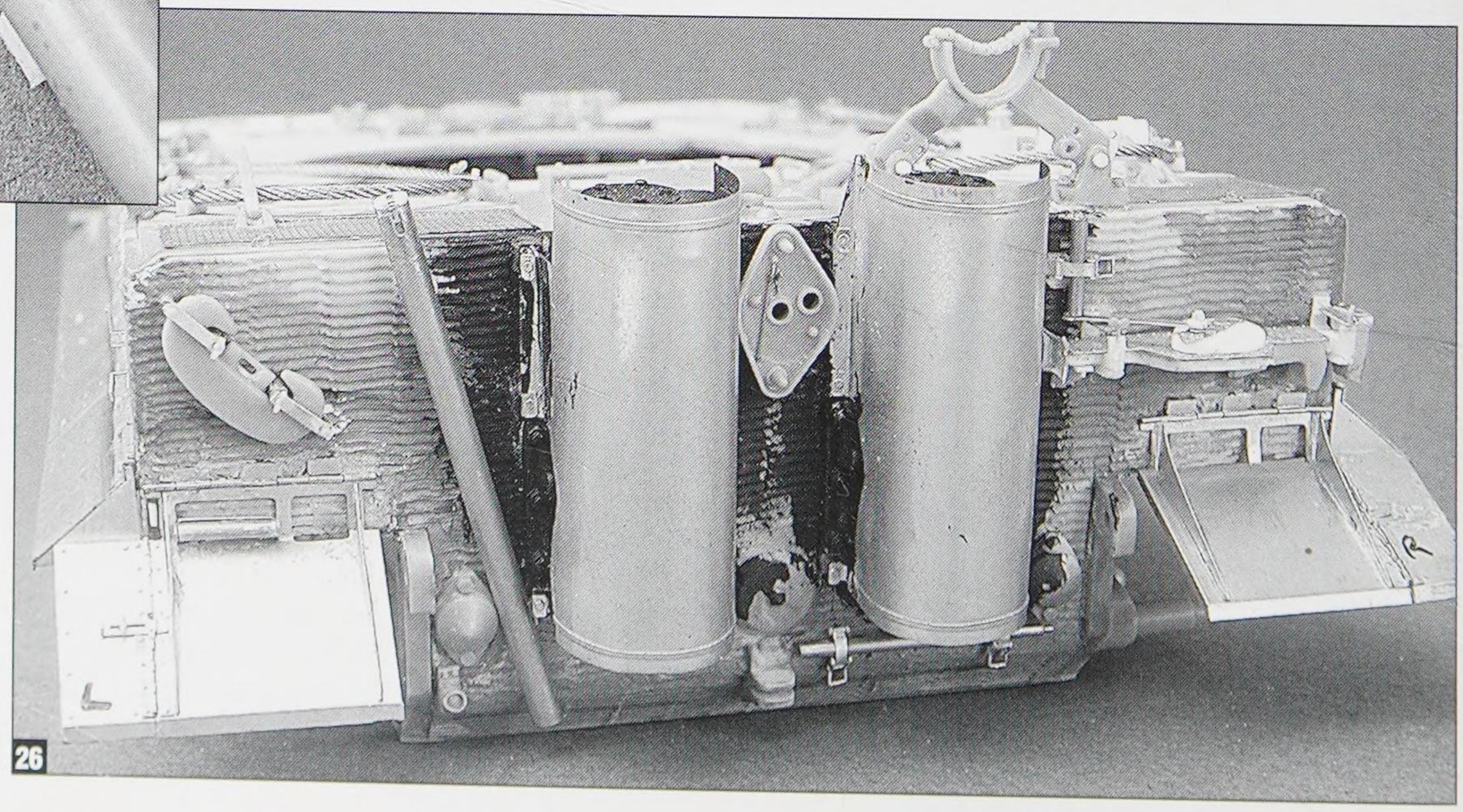


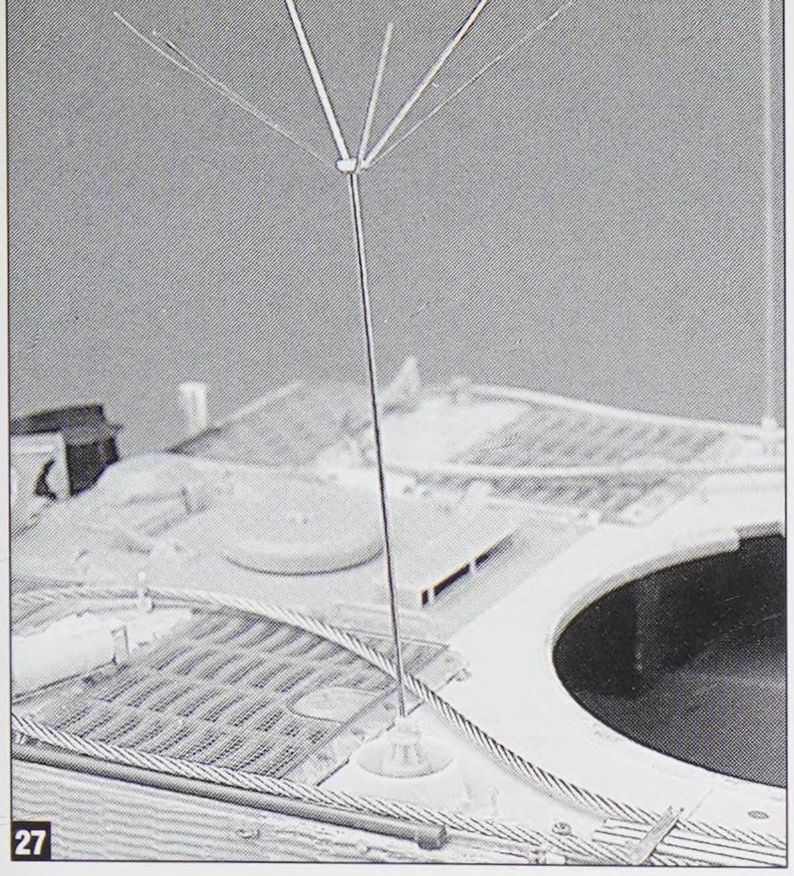
Photo 22 shows the area in question. Going from left to right is the connection point for the antenna,

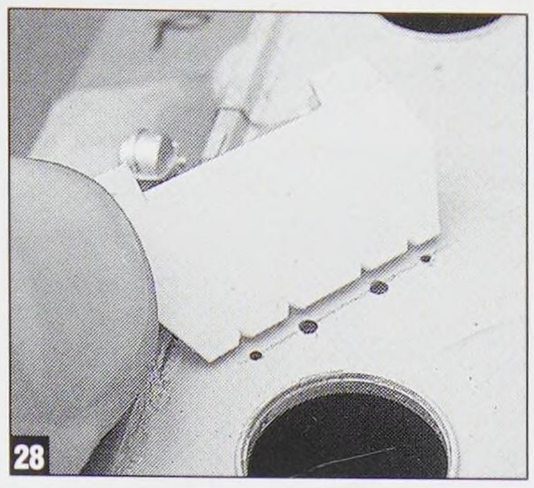


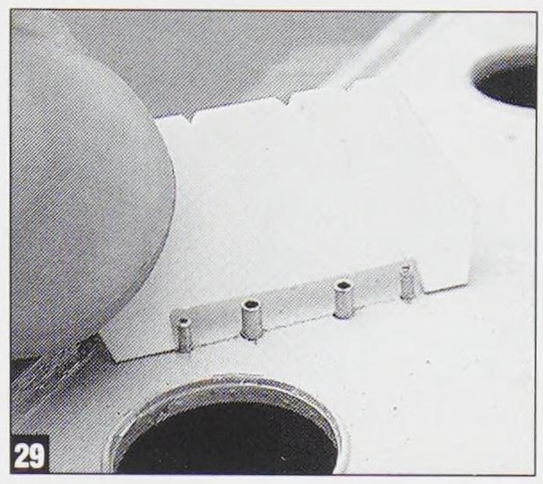
the exhaust port for the CG400 generator (for all the extra juice needed by the radios) and the base for the hinged clamp.

The armored pot needed a weld bead, so after it









Back on deck

I needed a quick way to install all of the C-hooks on this and the following five models. I designed the template for this purpose. One side indicates the distance between the mounting posts (**photo 28**), while the other indicates the height of the posts (**photo 29**). The idea was to use hollow brass rod and just pass it right through the hull and pull it back towards the template. The smaller rod also fits into the larger and would provide a hole for the hex nut and wing nut that got installed later.

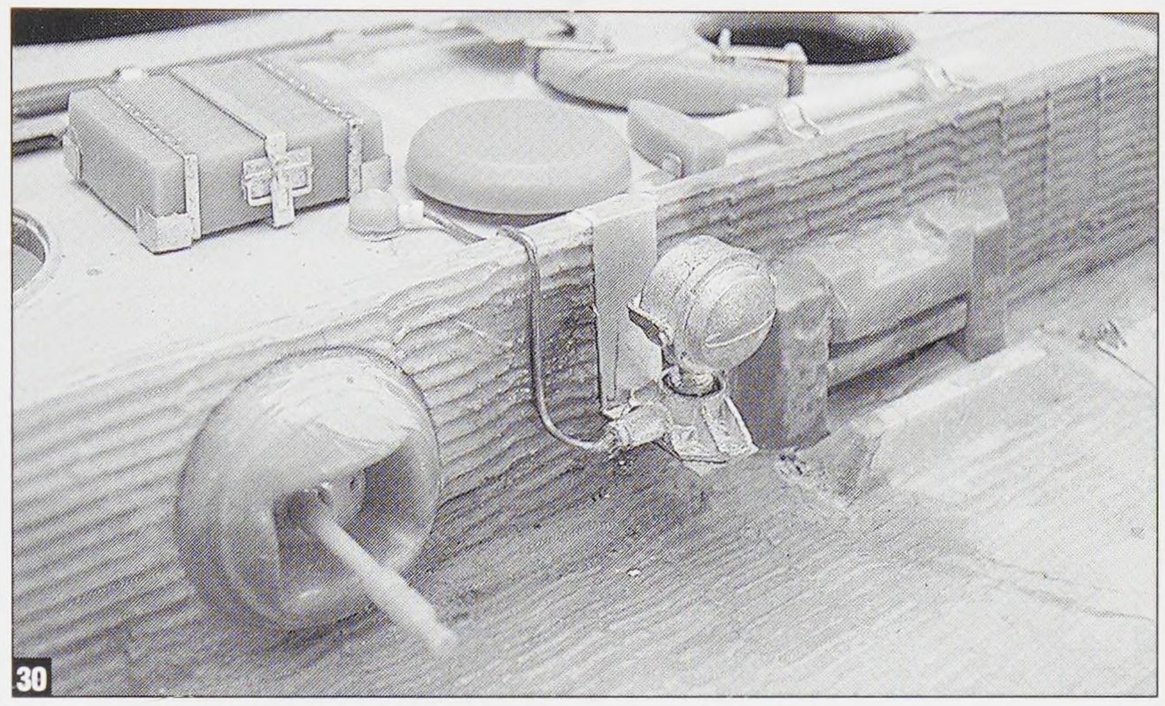
This was the first of three tanks to utilize the handy ModelKasten white metal Bosch light. This is super detailed right out of the bag, with the proper base plate, wire nut and other details in place. The only problem I had was that a few of the castings were off register. This worked out OK, because there are six in the package. This is seen installed on its hanger with the remainder of the hardware in **photo 30**. Note that the hanger is not covered with Zimmerit. About half the photos I've found showed it this way, so it's your call.

was installed, the area was masked off with Tamiya tape and a weld was applied using Gunze Mr. Dissolved Putty (**photo 23**). The final result of all this monkey business can be seen in **photo 24**.

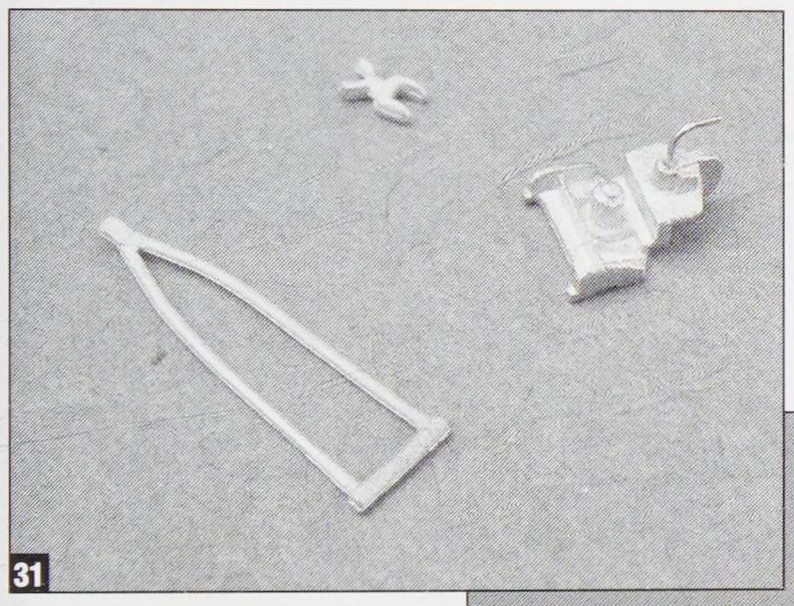
The additional sections of mast were stowed in a special tube mounted on the rear hull. This was formed from brass tubing and a lid was made with a punch and die set. The fastener for the lid is one of the Aber super mini clasps. Two small pieces of styrene served as mounted points (**photo 25**).

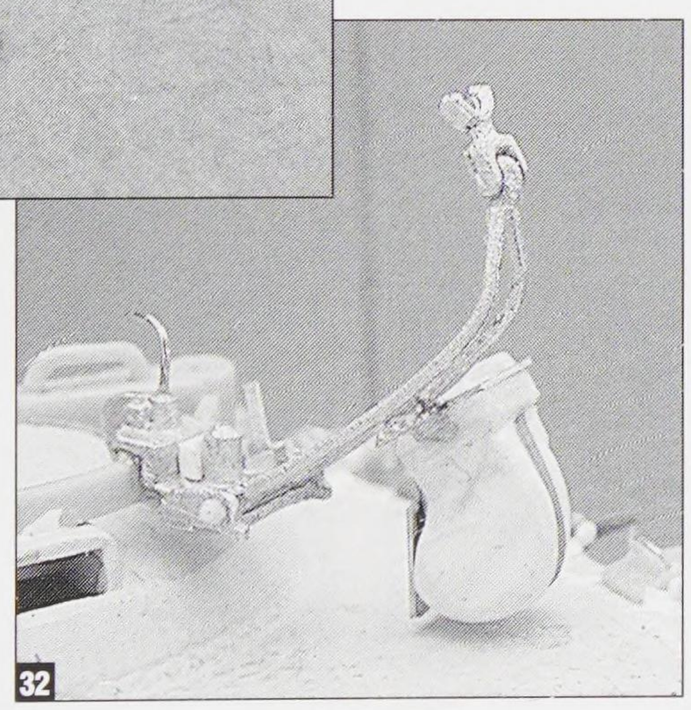
Photo 26 shows the completed back hull. Due to the installation of the tube, the large C-hook was fered with the jack. So the jack was moved to the opposite side where it now interfered with the C-hook. Get it?

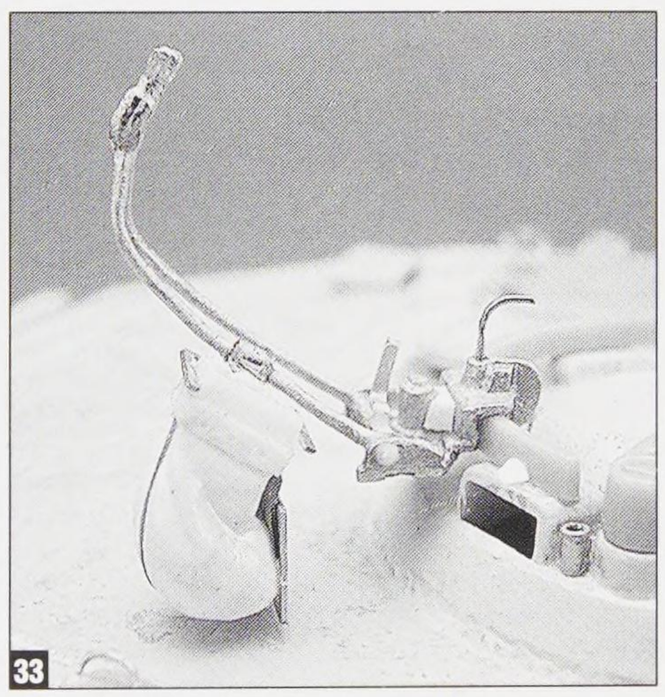
So the moral to my story is that this model is a correct representation of a January 1944 Befehlswagen, but not 007. Remember: post



February 1944 Befehlswagens have the mirrored stowage. And, by pinning down the production date, it can be firmly established that 007 did have steel wheels. I'll get over it someday...



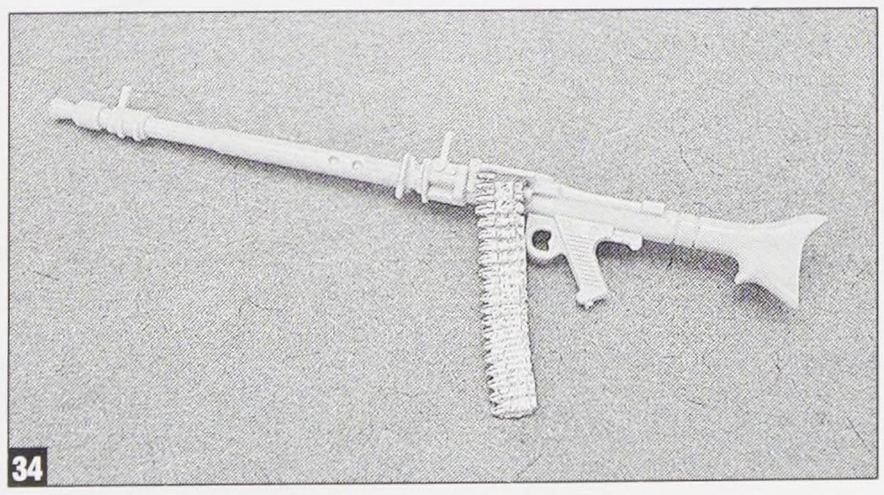




mounted to the left as shown. Everything else has been installed here including the jack and the longer part of the hand crank (below the right hand exhaust).

I have to digress here (again) and speak to the rear hull arrangement of this particular tank.

There is only one known photo of 007 and this was taken after its destruction on August 8th, 1944. The weird thing is that this photo shows all of the stowage on the rear hull installed in a "mirrored" configuration. Everything is in the opposite position, jack on the left, instead of right, etc. I thought the photo must have been altered in some way, because there is absolutely no earthly reason for this to occur. It makes no sense whatsoever. Until... Until I realized that this is not a January production Tiger I after all. You see, in February 1944, at chassis number 350823, a small port was introduced into the rear hull just beneath the left side exhaust stack (this was to jam a blowtorch into and heat the engine coolant). The result of this installation was that the mast stowage tube would no longer fit. Therefore, it was moved to the opposite side, where it now inter-



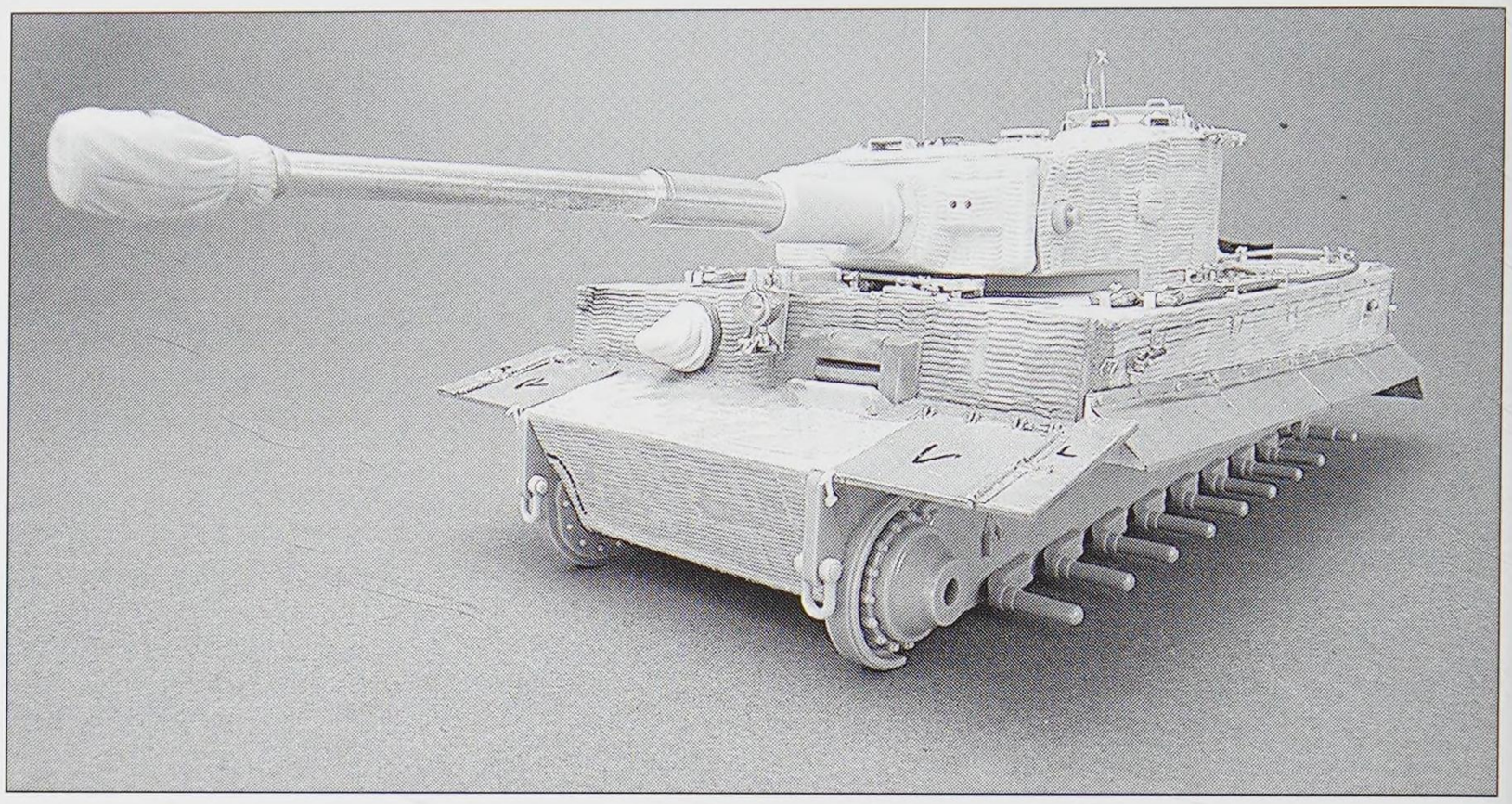
The final antenna configuration is shown in **photo 27**. Note that the mast for the Fu 8 antenna does not taper. The "star" portion of the antenna is from the DML set. The arms of the star are flat, as they should be.

Take me to your turret

I also went looking for the quick solution for the turret mounted MG. Since I had six of them to make, I was not too keen on scratch building them, or forming them from Aber parts. The solution was found in a great little accessory set from a Japanese company called Clipper. This is a tough one to round up, but if you do go looking, it's number 621. The set includes the parts shown in **photo 31**, but the sliding base mount still needs a small block of styrene, a wire for the adjustment latch, a couple of bolts and a lever for the cradle. All these can be seen in **photos 32 & 33** of the finished mount. The lever is from the Aber set and the bolts are Grandt Line. My favorite part of the set is that the swivel mount on the end can be pre-mated to the plastic MG, ensuring a perfect fit.

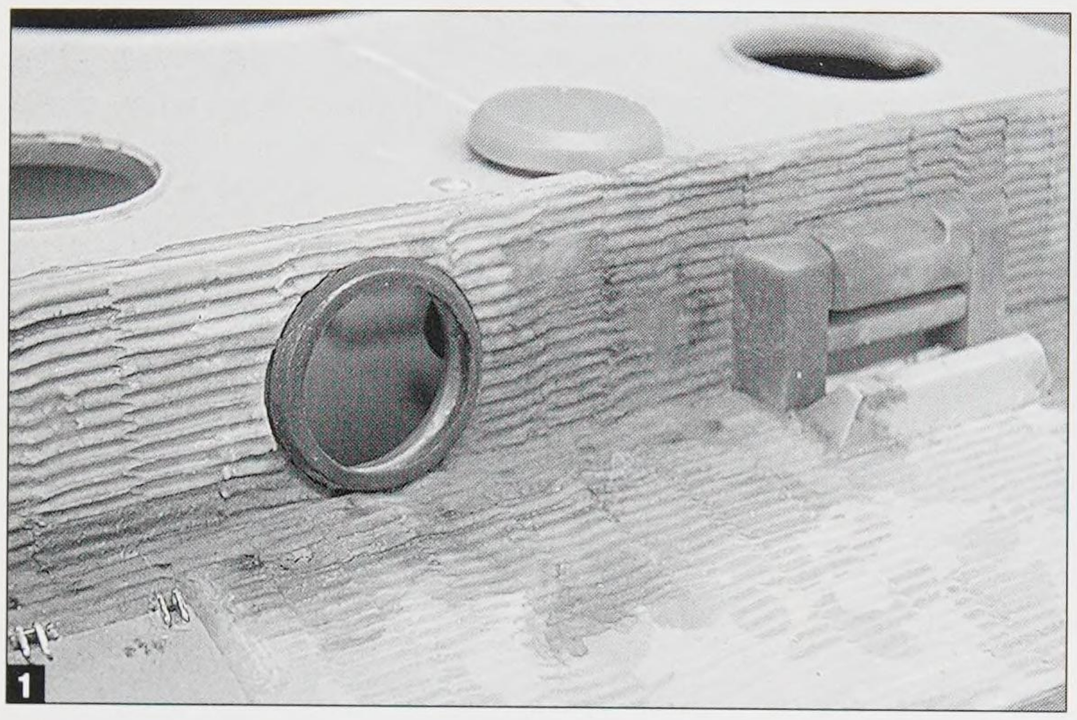
The mount for the ammo bag was made from lead foil and the bag clamp is another part from the Aber set. Because of the angle of the mounting arms, using a straight ammo bag was going to look ridiculous. They are several out there in accessory land. I used a Tank Workshop bag and after drilling out and squaring up the top, I trimmed it down to about one third its length. Then using Tamiya two-part epoxy putty, I formed the hanging portion of the bag. A lead foil strap was added while the bag was still soft. The metal lid for the bag is from an old Azimut MG set. This set also provided the wonderful white metal ammo belt seen in **photo 34**. The metal can be realistically bent to match the angle of the bag. If you can still find it, it's set number 35302.

Panzerkampfwagen Tiger Ausf. E - Fgst. Nr. 250825



Given the leap I took with the last model, this one is just a baby step. I'm only moving forward one month. This was the time of the biggest external change to the Tiger I, the addition of the all-steel road wheels. This began at chassis number 250822, during the February production. I felt that this was an important variant because it is the beginning of what would become the Tiger I's final form. At this point, the tank was still just a mid production vehicle. Many of the features made famous by the late Tamiya Tiger I had not yet been introduced. In fact, the only difference beside the roadwheels was the coolant port added to the rear hull.

This is essentially the same model as the previous one, except for the addition of the steel wheels. I used the same base model (35194), but added the torsion arms and wheels from 35164. The thing you are looking for here is the smaller style towing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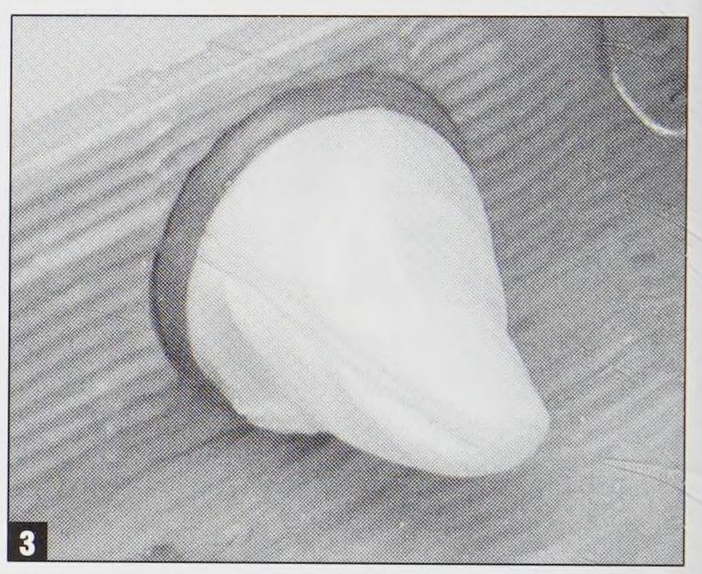
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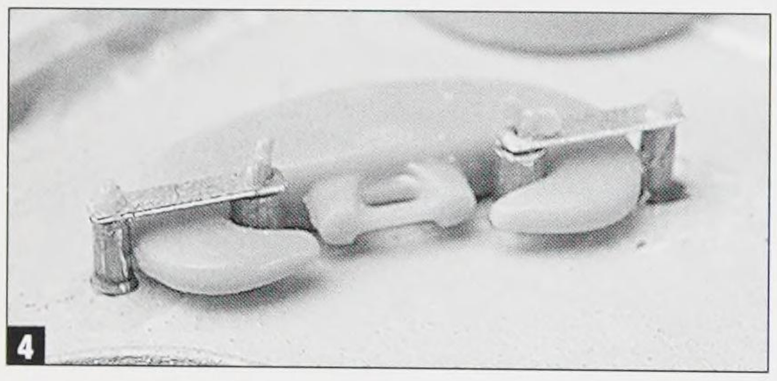
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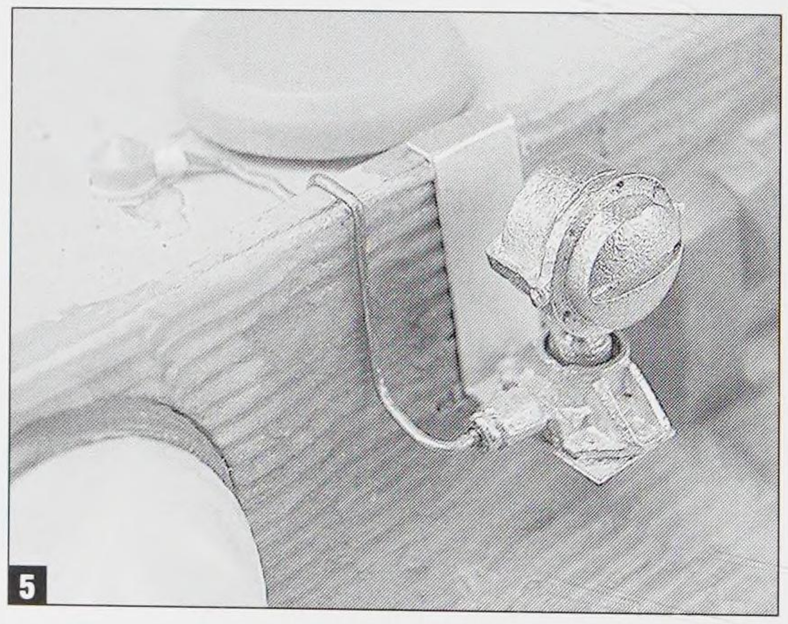
brackets on the front and rear hull, and the absence of the turret ring guard.

Because of the similarities, I decided to add a few things to the model to make it look a little different. Decal Star makes a great little set of canvas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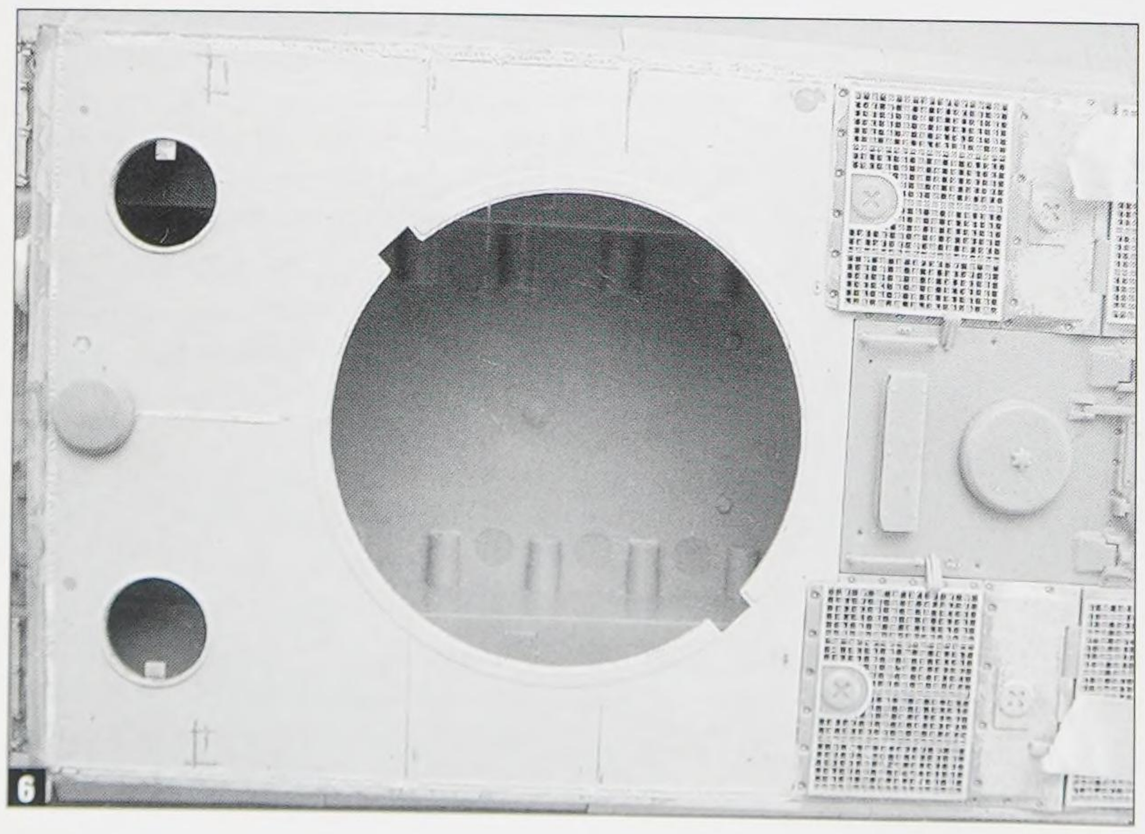
travel covers for the hull machine gun. These are attractive little resin castings that require the modification of the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hull ball mount. It's necessary to carefully remove the outer portion of the mount, ensuring that the inner edge remains completely flat. Of course, the mount itself needs to be removed from the front plate, so I used an extra one from the parts box. This has all been cleaned up and installed in **photo 1**, the canvas casting is seen in **photo 2 & photo 3** shows the final installation. Photo 1 also shows some of the repair work accomplished on the Cavalier Zimmerit. The small gap around the mount will be filled later.

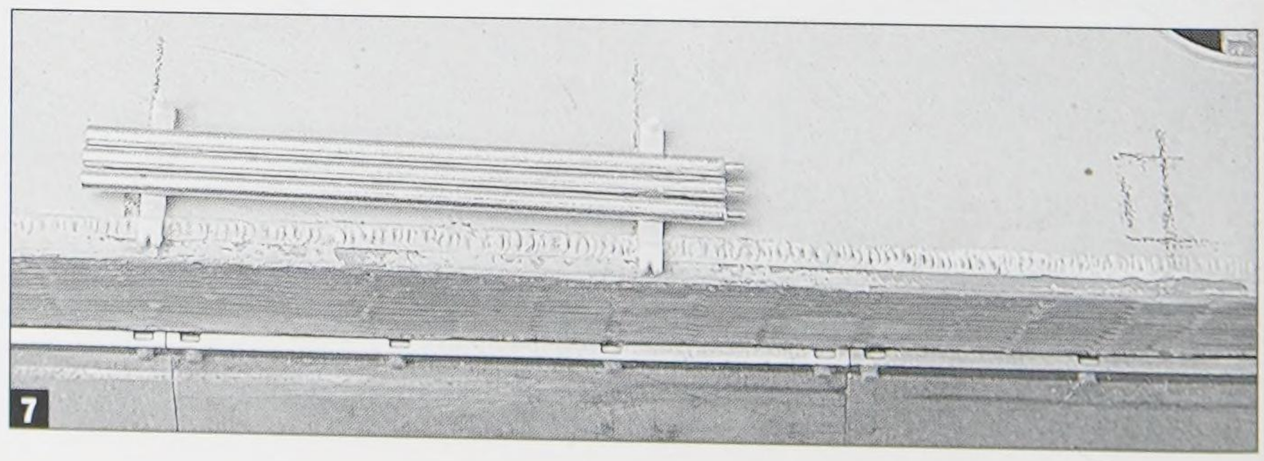
The results of my previously mentioned jig for the C-hooks can be seen in **photo 4**. This method worked OK for a while, but I found that if the positions were off by only a fraction of a millimeter, it would totally screw up the look of the part. Later, in the Tiger II section, I went to plastic rod, using the C-hooks as a guide. Photos of this appear in those sections. **Photo 5** is a closer look at the front mounted Bosch headlight.

What? Again?

Although it's covered in some depth in the "Das Reich" Tiger I section, I wanted to describe the installation of the tow cables and their brackets in a bit more detail here.

To begin, I marked out the position of the all the various components on the hull in pencil. To make sure everything was straight, I used a homemade T-square made from plastic strip (seen later in the Tiger II section). The hull is ready to go in **photo 6**.

The next step is to attach the Royal clamps,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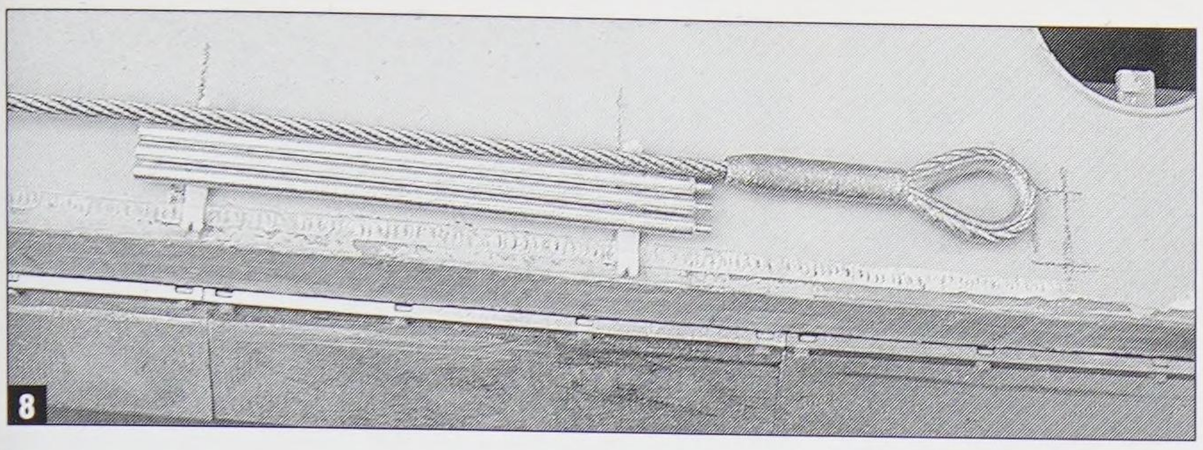
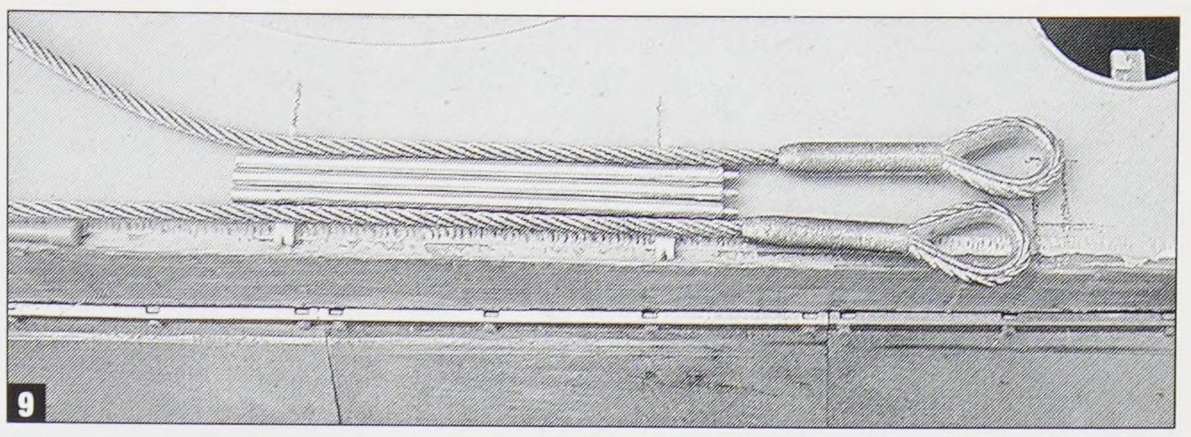
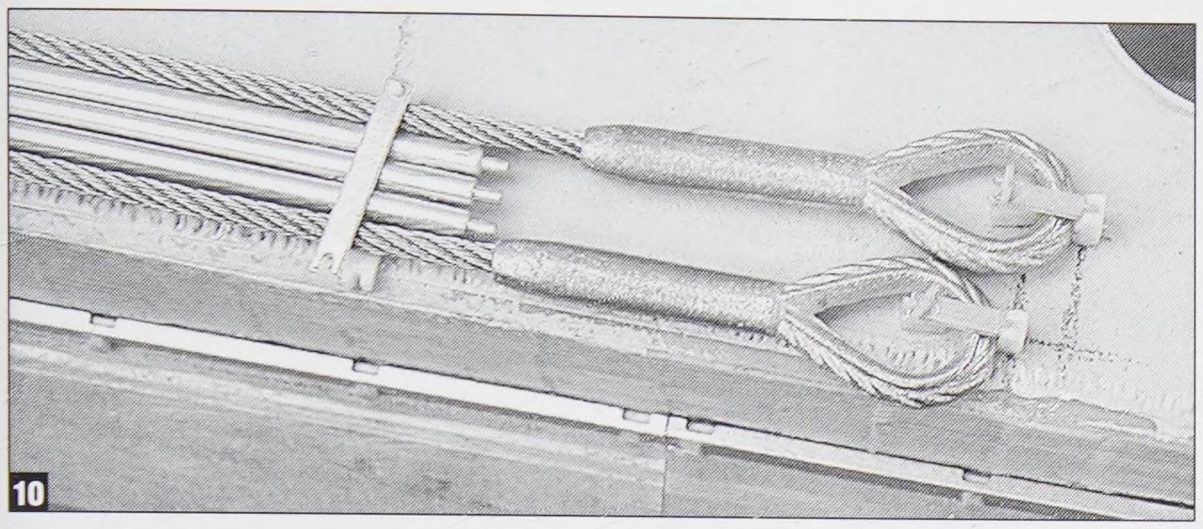
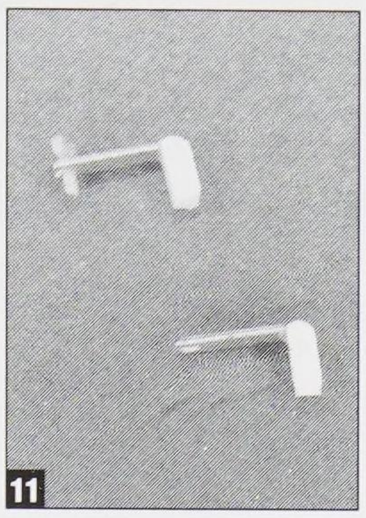
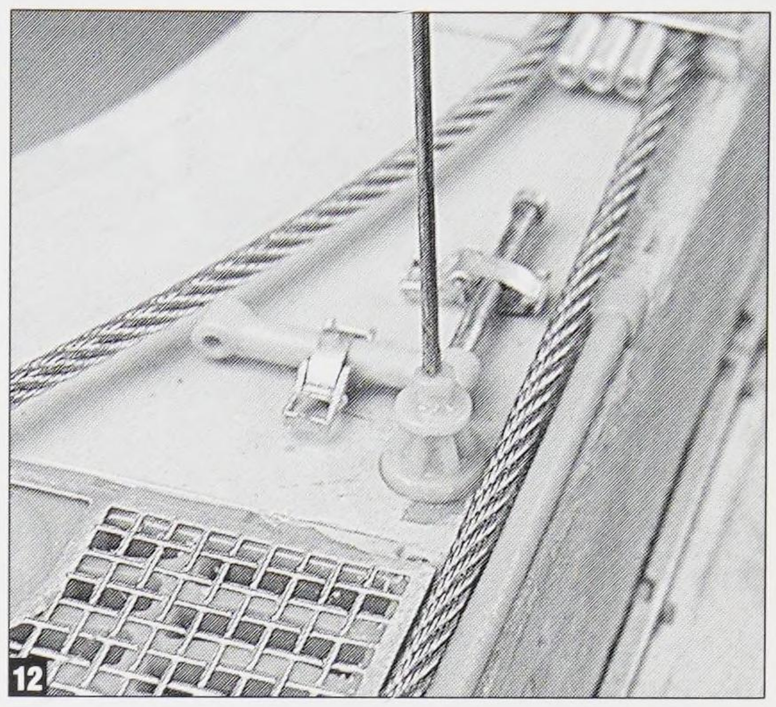
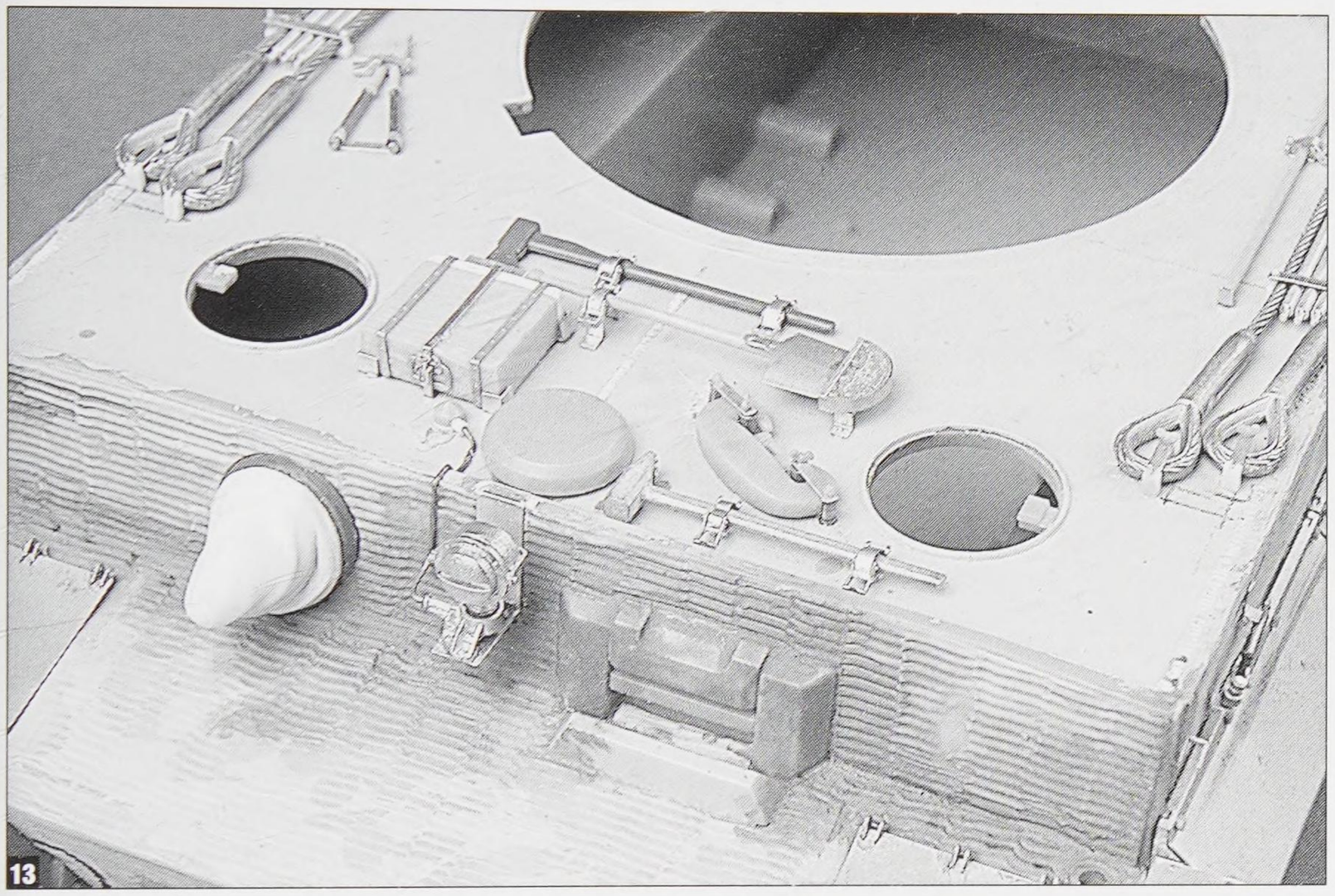


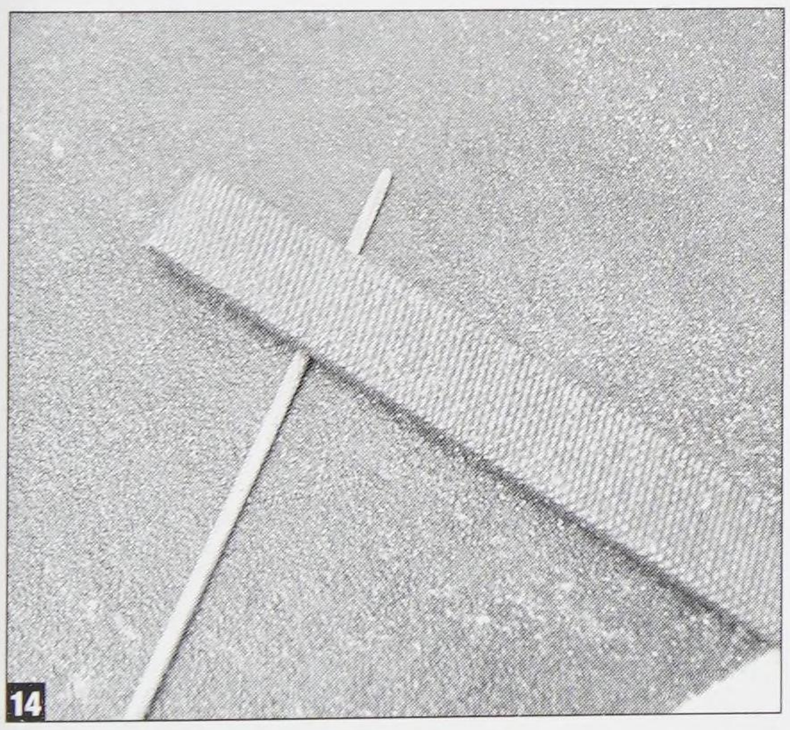


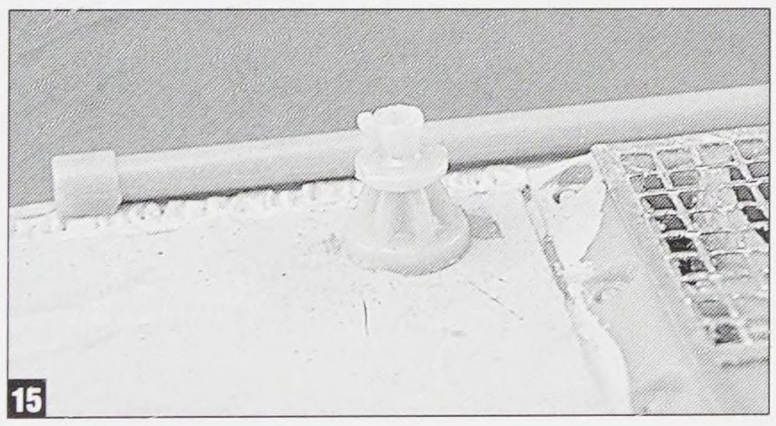












using the pencil lines as a guide. Then, the Elefant cleaning rods are put in place. This not only helps align the tow cable, it also reveals if the clamp bases are straight. They are a bit off, as seen in **photo 7** and were adjusted. Oh—by the way, my clamps are on backwards. The notched end should face towards the turret.

In **photo 8**, the tow cable has been laid in and the head placed on its pencil mark. **Photo 9** shows the other end brought around and placed on its mark (it has also been placed in the rear holders). This cable head has been left unglued so that if the length is off, it can be adjusted. At this point, the cable clamps, which were already assembled, were simply placed over the cable heads (**photo 10**). The heads are still loose here and many photos show them canted towards the center of the vehicle. This is easy to do with a teeny drop of superglue.

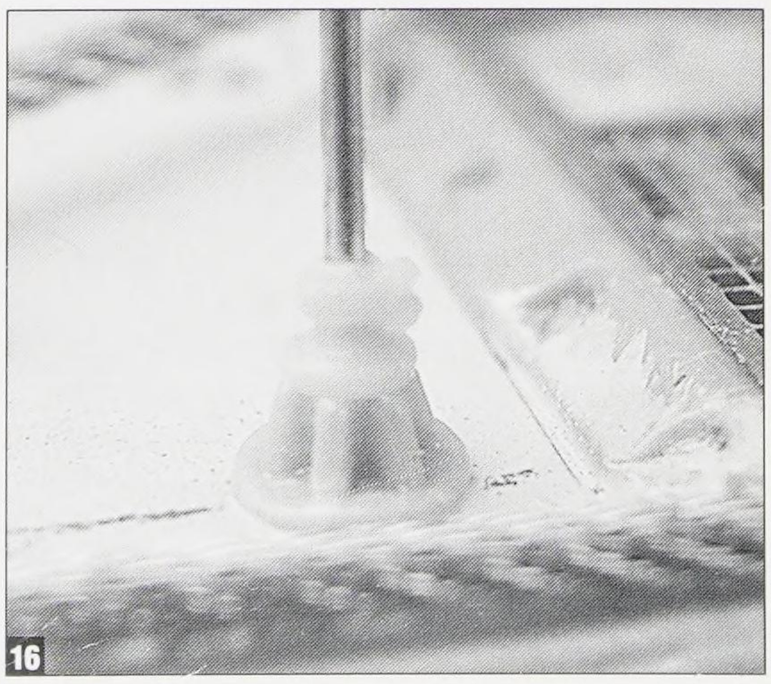
Photo 11 depicts the head clamps during construction. They were brought to this point first, then the bottom section was added to gauge the proper height.

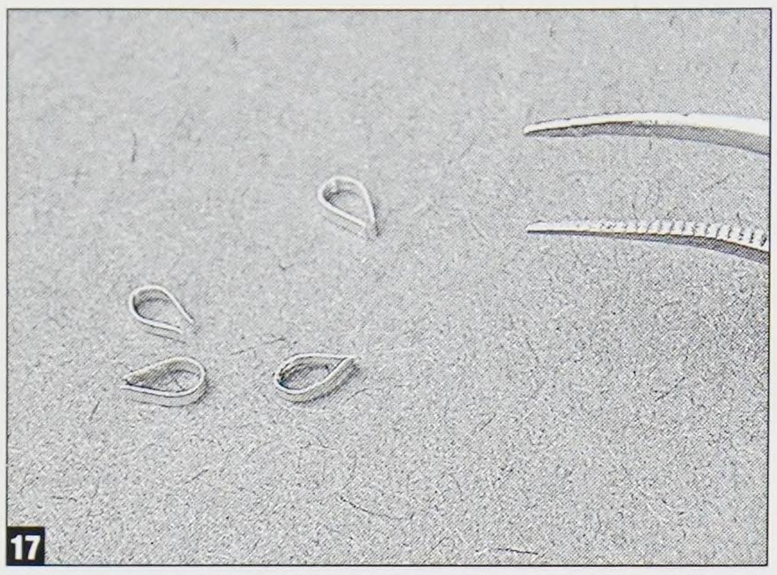
The handle for the starter crank made its reappearance on the top deck back in October 1943. This thing is a bit of a mystery. It made a brief appearance back in late 1942 and then disappeared from view until October of the following year. It must have been stowed inside the vehicle, because it's nowhere to be found on the outside. The pre-February Befehlswagen doesn't have one either, because the Fu 8 antenna is in its place. The handle can be seen on the deck of my model in **photo 12**.

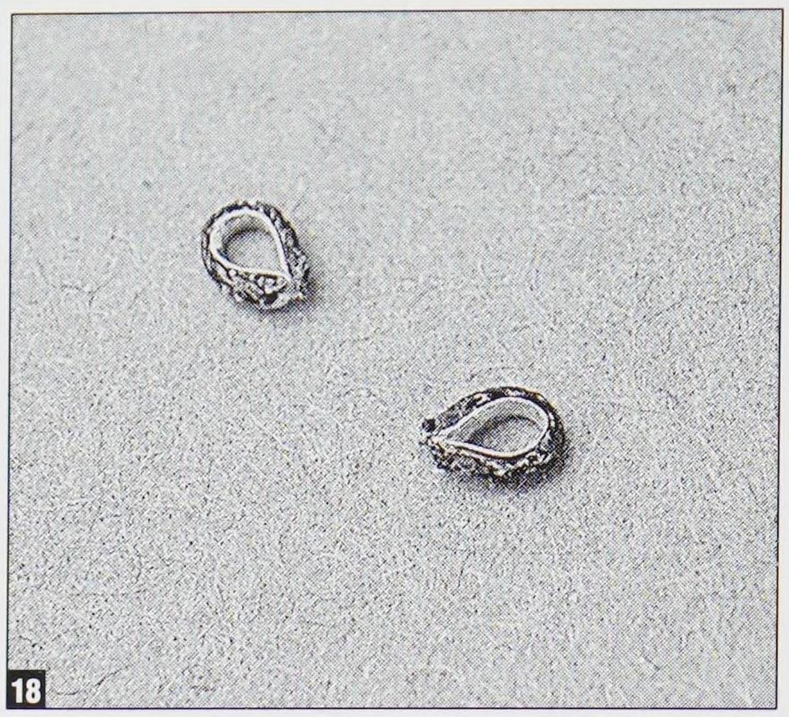
All of the final tool stowage, tow cables, Bosch light and the canvas MG cover is on display in **photo 13**. The tool stowage shown here was also established in October of 1943 and it wouldn't change again until June of 1944 with the introduction of the turret ring guard. Interestingly, some photos show these earlier tanks with the ax in front of the right hand hull hatch. Also note that the tow cable heads have been canted slightly to the center of the tank.

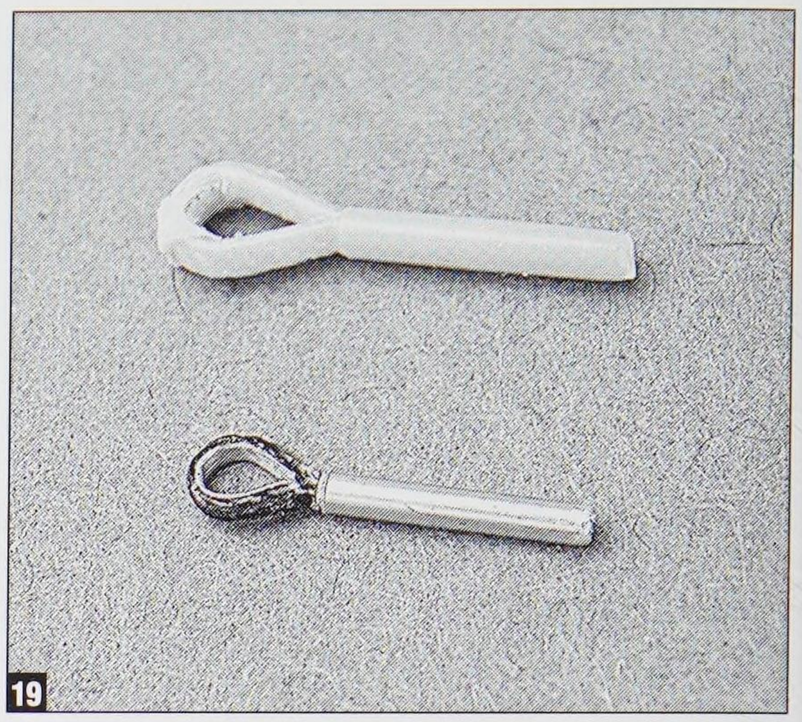
Uncle Radio and Antenna

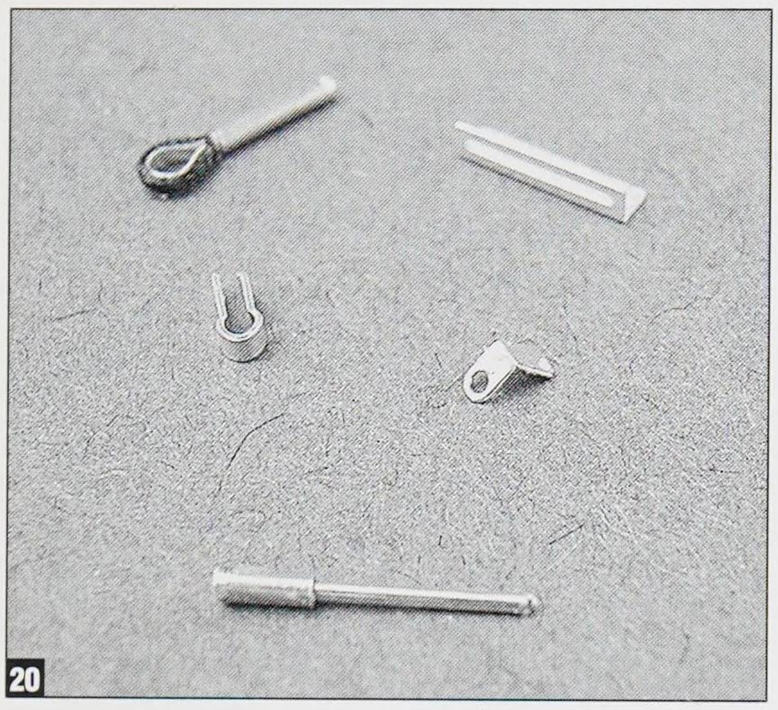
To form the standard Fu 5 radio antenna I developed a simple method to taper it. It is not tapered from the base to the tip, something you get when you used stretched sprue. Only about the upper third of the antenna is slightly tapered, but not to a severe point the way a section of sprue would be. So, what I did was take a section of brass rod and cut it to the proper length (the Doyle plans are spot on). Then, with the rod between the thumb and forefinger of my left hand (I'm right handed), I began

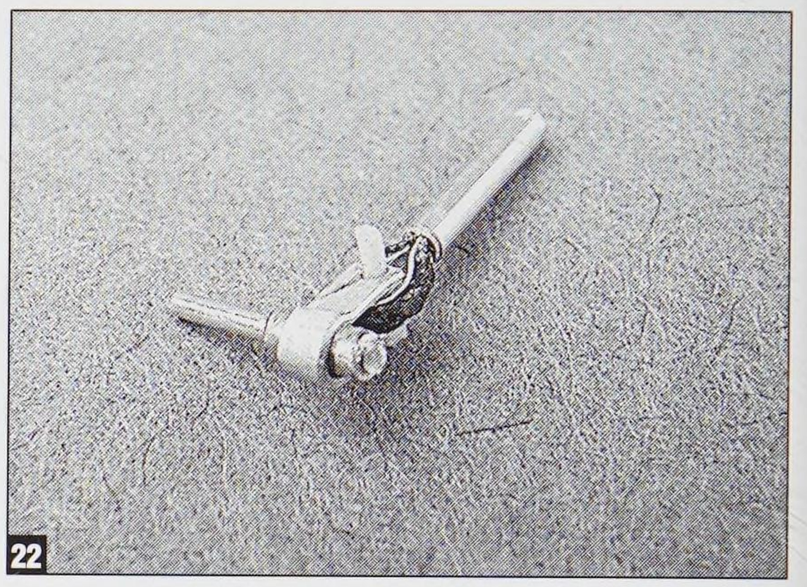












spinning it against a sheet of emery paper. With a flat file in my right hand, I then apply pressure to the rod while pushing the file away from me. It takes a couple of minutes, but the taper begins to appear (**photo 14**). The surface of the emery paper keeps the rod from scattering all over the place. I normally keep a section of 600-grit emery paper (the black stuff) taped to a plastic cutting board and this also provides a stable platform to work on.

Another one of the DML insulators and base is seen in place in **photo 15** and a close-up of the mount with the antenna is seen in **photo 16**.

And now for something completely silly

Previously, I had dealt with the track cables by trimming out and using the Tamiya cable heads. These were threaded with narrow, nylon ship rope (see page 115). However, (you knew this was coming, right?) there was a change in the arrangement of the cable back in August of 1943. Instead of both heads being installed at the rear, only one is installed there and the other is now at the front of the hull. The problem is that the Tamiya cable heads are on the big side. This is not a problem when they're spread out on the wider part of the hull, but it does become a problem in the tighter confines of the front hull (see the drawing on page 31).

The solution? Make new ones that are to scale. Again, I turned to the Doyle plans to judge the proper size. Oh, there are ten needed because this space problem continues into the Tiger II. Certainly easier said (or written) than done. Here's how it was.

First, it was necessary to find a suitable material to form the inner guard of the cable loop. I finally settled on some small strips of etched brass from a spare set. These were formed into teardrop shapes (**photo 17**). To get these parts to scale, they had to be made incredibly small (I still get a headache looking at the photo). My tweezers give some impression of this.

The shapes were then hung on a rod that was suspended on both ends. The next part of the procedure was a two-handed job. With the pointed end of the shape facing down, I carefully looped thin nylon cord around the heads, then a small amount of superglue was applied. The extra cord was trimmed away when the glue was dry and the results can be seen in **photo 18**. They are still looking a bit rough at this stage, but they were cleaned up slightly after they were installed in the head shaft. The shaft is chamfered on the cable end and this is so small, it can easily be done with a file. The results of all this insanity can be seen in **photo 19**. The Tamiya cable is seen at the top.

Each of the heads is enclosed in mounting hardware and the source of this is a combination of Aber and Royal. There is a loop to hold the head and a post to mount it on. The post is later mounted into a sliding bracket on the back end (**photo 20**).

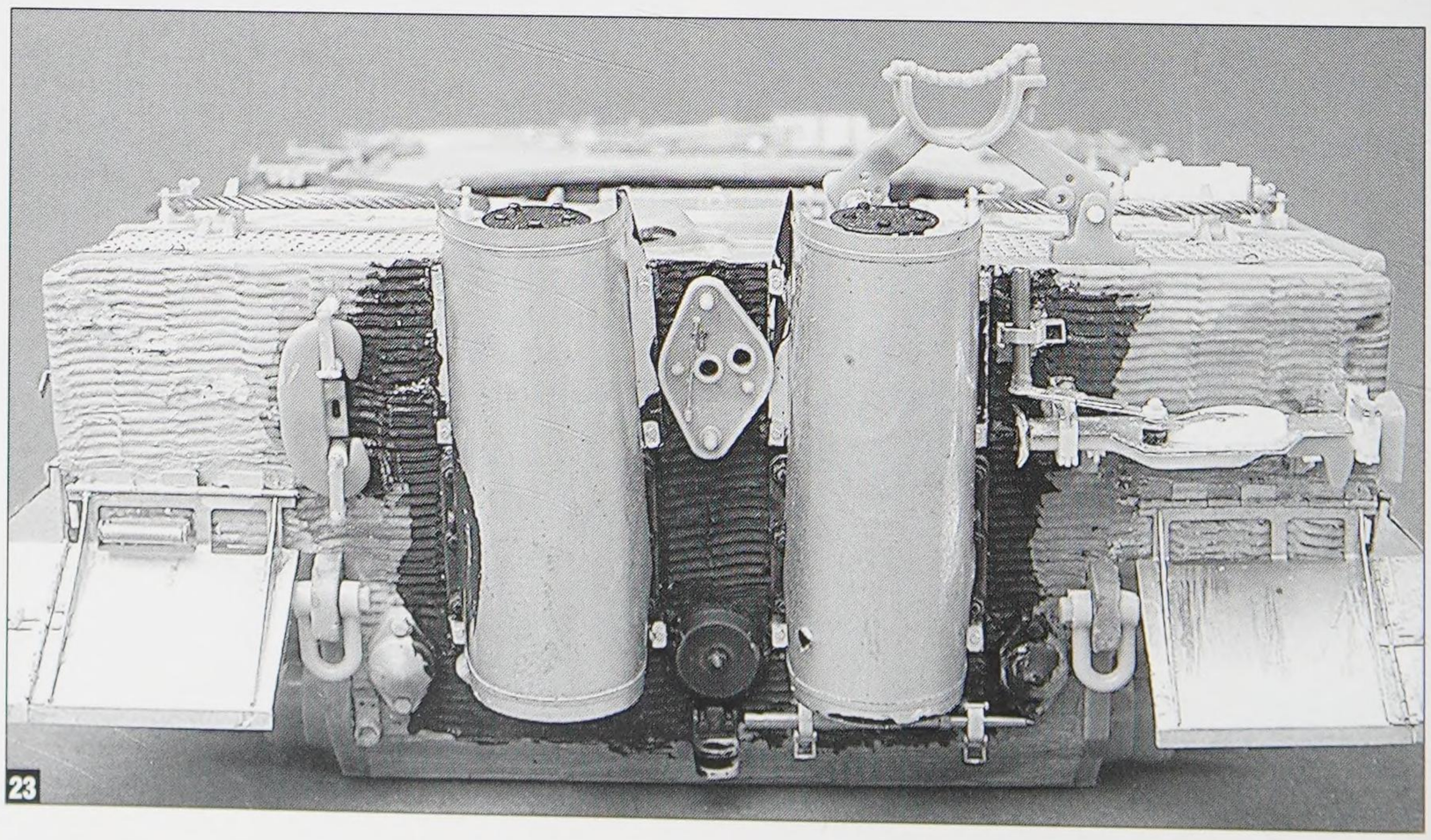
When this is all assembled it looks something like the thing in **photos 21 & 22**. To attach the head to the loop, I passed a Grandt Line nut and its sprue right through the hole of the loop, and trimmed it on the backside. This allowed the assembly to move around a little bit and keep it from snapping off.

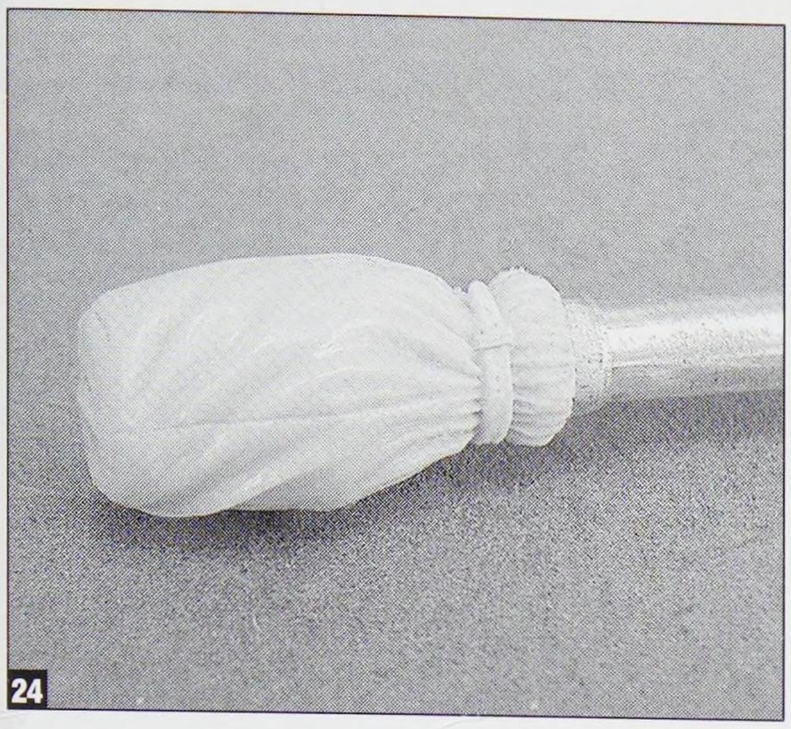
Before moving on to the turret, I wanted to interject one last photo to put the whole backend thing to rest. This is **photo 23** and it shows the correct configuration for a Tiger manufactured between November 1943 and late February 1944. I did install the coolant access plate under the left exhaust stack, but it can't be seen in this shot.

You know, these things did have turrets...

Yet another Decal Star item is a set of canvas covered muzzle brakes. These are very competently sculpted and the castings even contain finely rendered straps. One of them can be seen installed on the end of an Elefant barrel in **photos 24 & 25**.

Starting way back in May of 1943, multiple sets of hangers were installed around the turret edge of the Tiger I in order to accommodate spare track links. The upper portion of the assembly is provided in the Tamiya kit, but oddly, not the lower portion. This part can be found in styrene abundance in the

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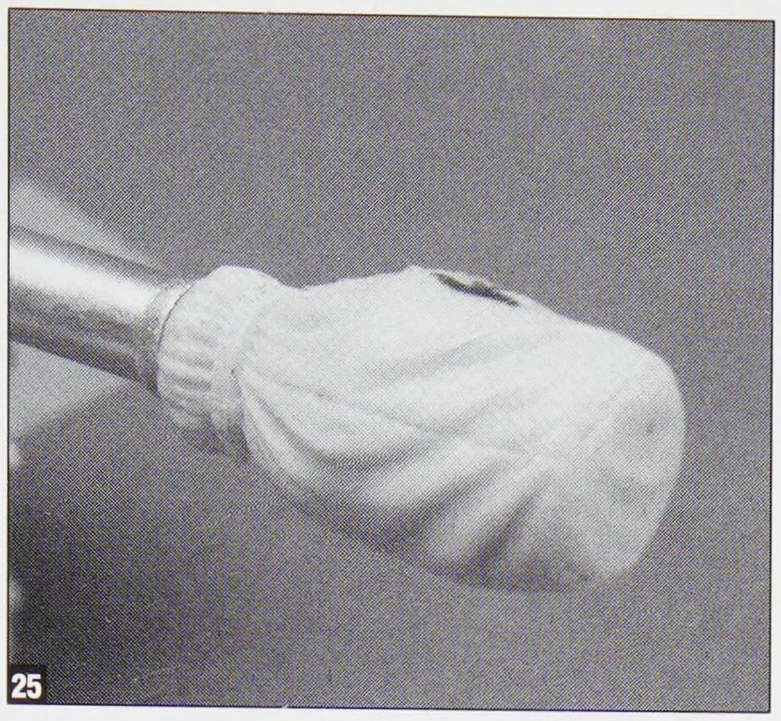
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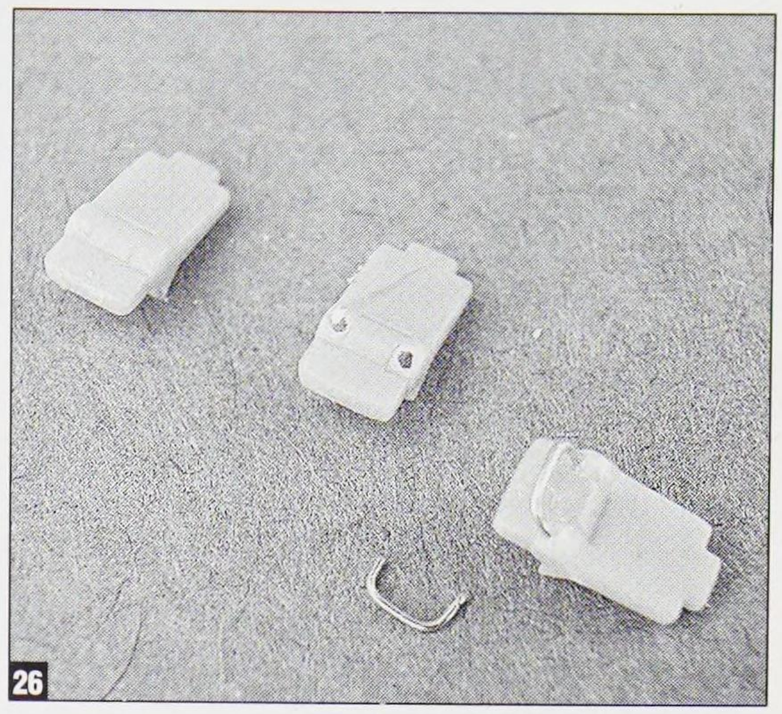
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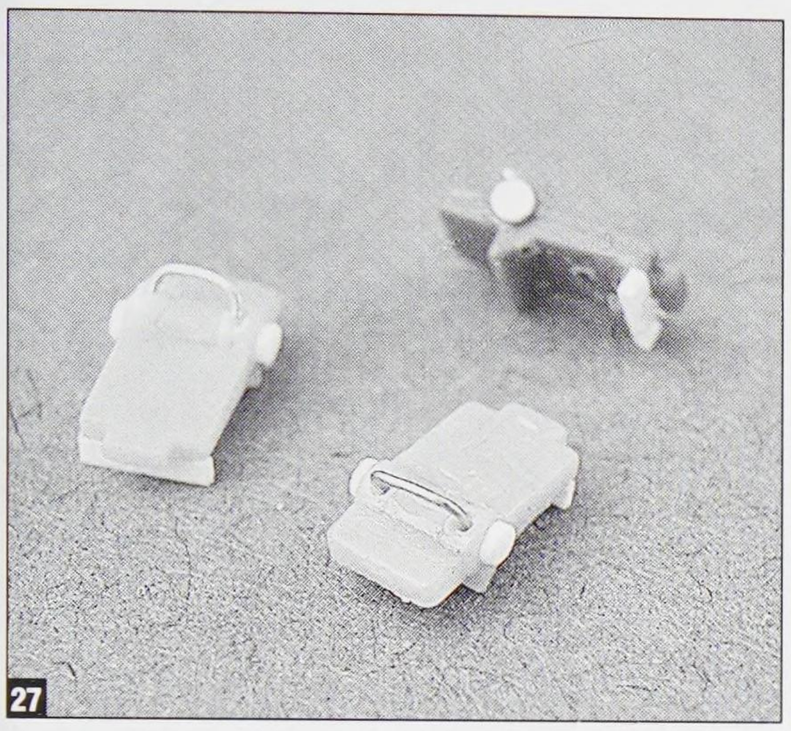
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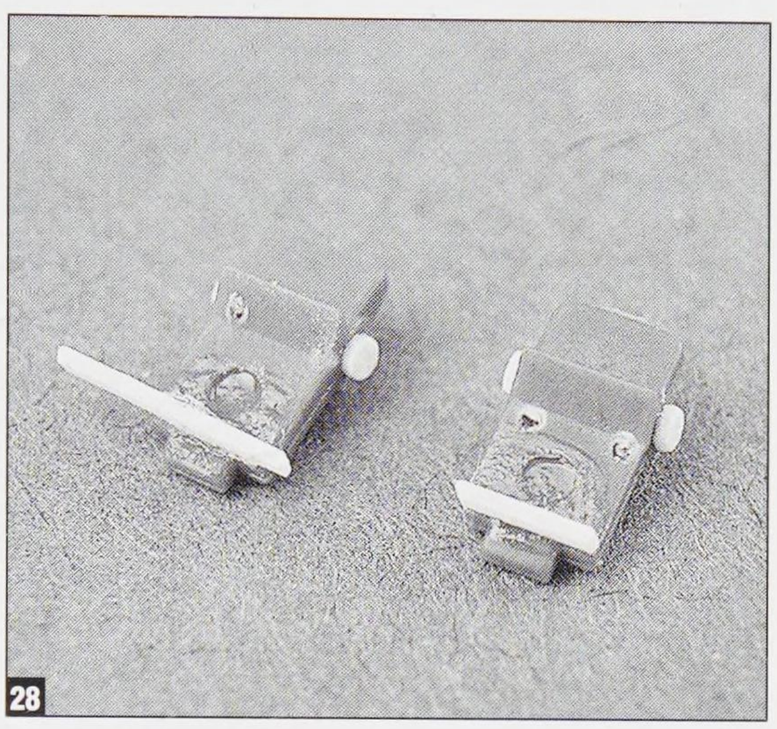
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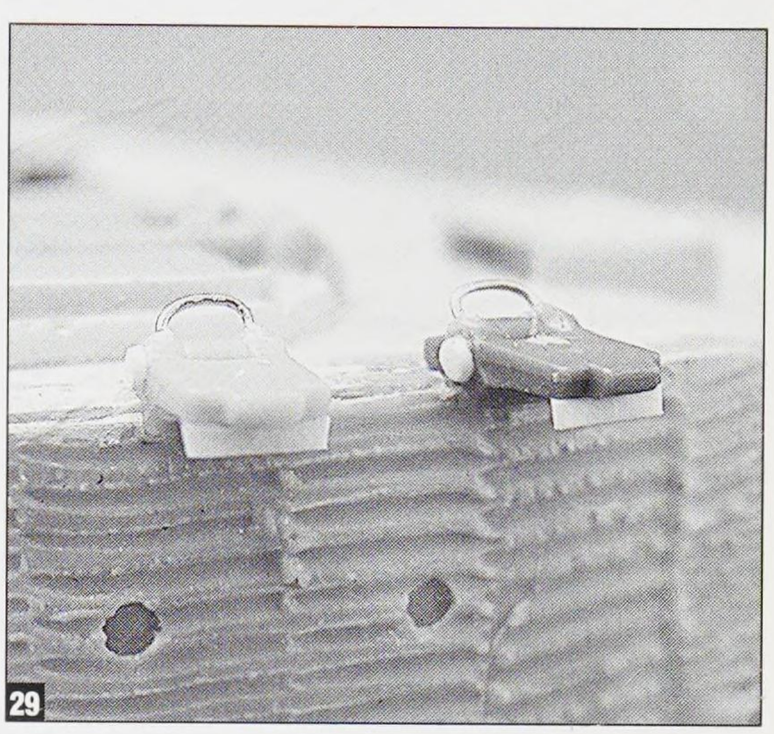

29

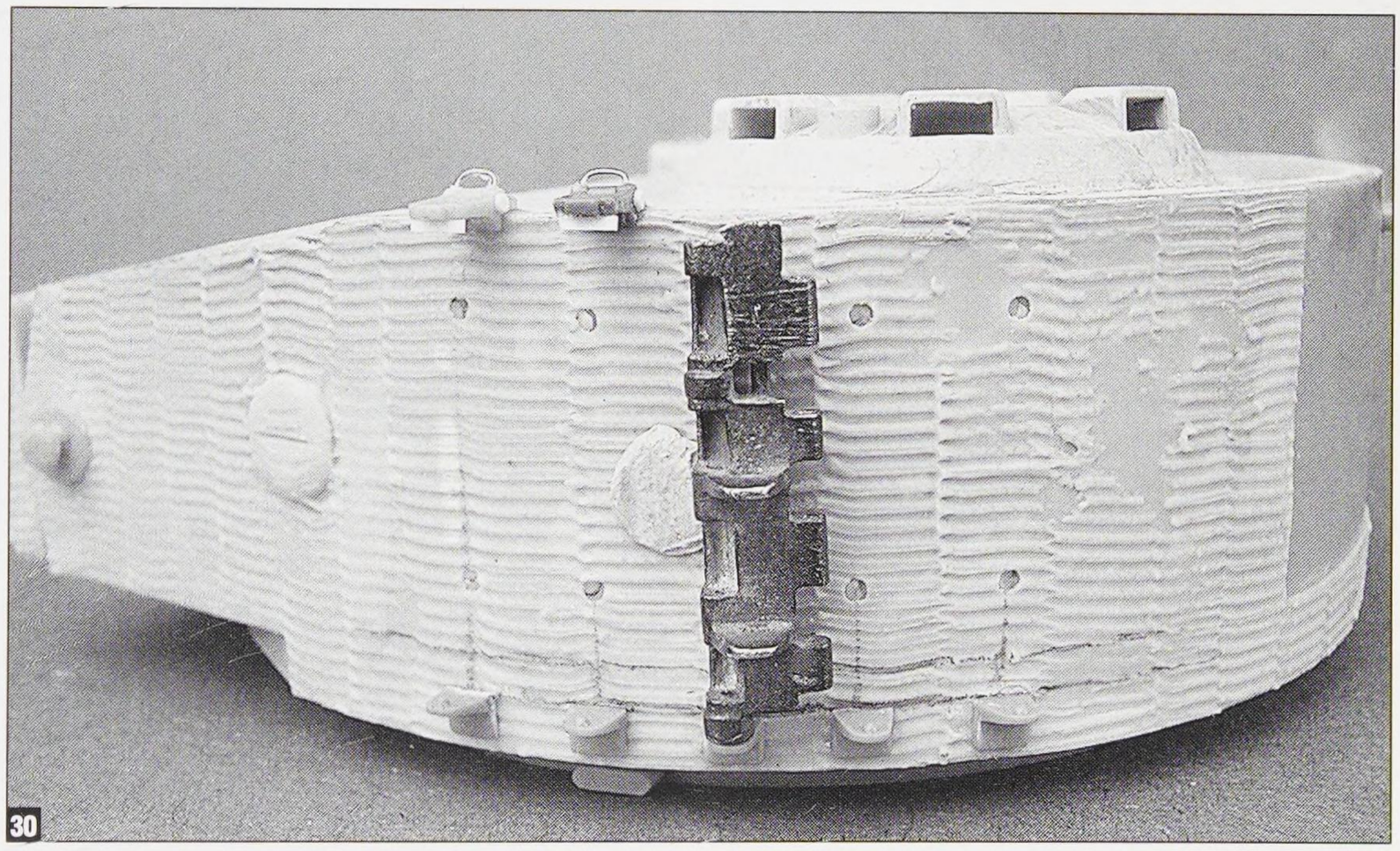
ModelKasten Tiger I transport tracks, SK-03, and in brass in the Aber sets.

The top, hinged part of the assembly requires some detailing to bring it up to snuff. Each of the assemblies had a small handle, so all of the parts were drilled out to receive a small, squared loop of brass wire (**photo 26**). In order to make the length of the loop easier to obtain, I drilled right through the part. Any extra length is disguised inside the part. I would also like to clearly state than I am not so stupid that I won't drill through a part like this and jab my finger with the drill bit more than say, forty or fifty times. By the way, a thimble is the solution.

Additional details include a small disk on either side to represent the hinge pin and a lip across the front (**photo 27**). This lip is what keeps the link from falling out. Gluing a small strip of plastic across the front and then trimming the excess away when the glue had dried formed the lip (**photo 28**). Aber also offers a solution as a very shallow C-shaped part in their super-duper set for the Tiger I. Unfortunately, there's only enough for one tank and I needed enough for three. The hinges can be seen installed on the turret in **photo 29**.

To pull it all together, I marked out the position of the lower bracket with a compass using the Doyle plans as a reference. This mark turned out to be too high when a link was test fitted. I marked out the new line seen in **photo 30**. In order to properly place the hinge, a link was placed in the bottom bracket, then attached with Blu-tac. Once the link was straight, the top hinge was glued in place. This also allowed me to carefully remove the links and replace them after painting. I didn't bother to fill the holes in the Zimmerit, as the links completely cover them when the model is complete.

The Clipper set for the turret MG is folded up in the travel position here and it looks just about as good this way. It's all the same parts as mentioned previously and it can be seen in **photos 31 & 32.**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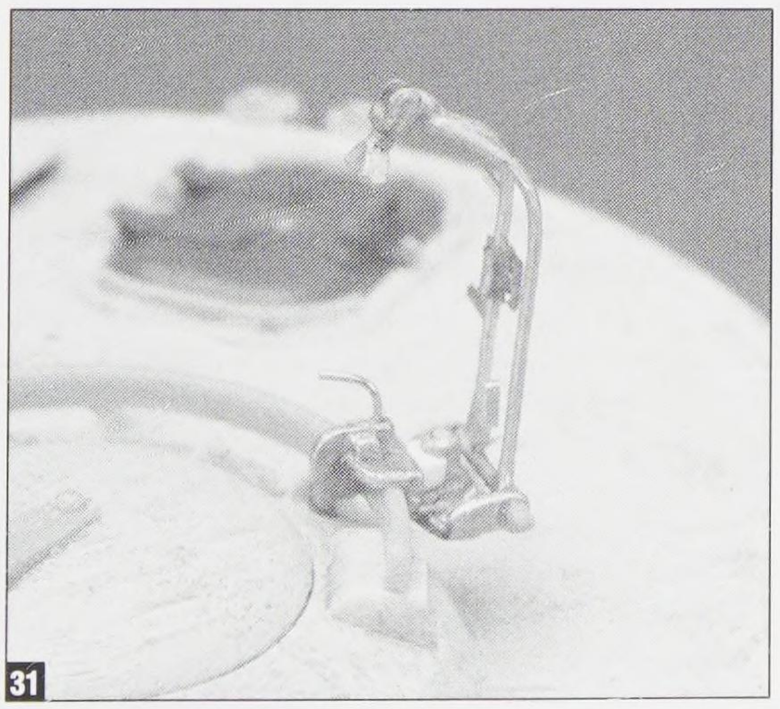
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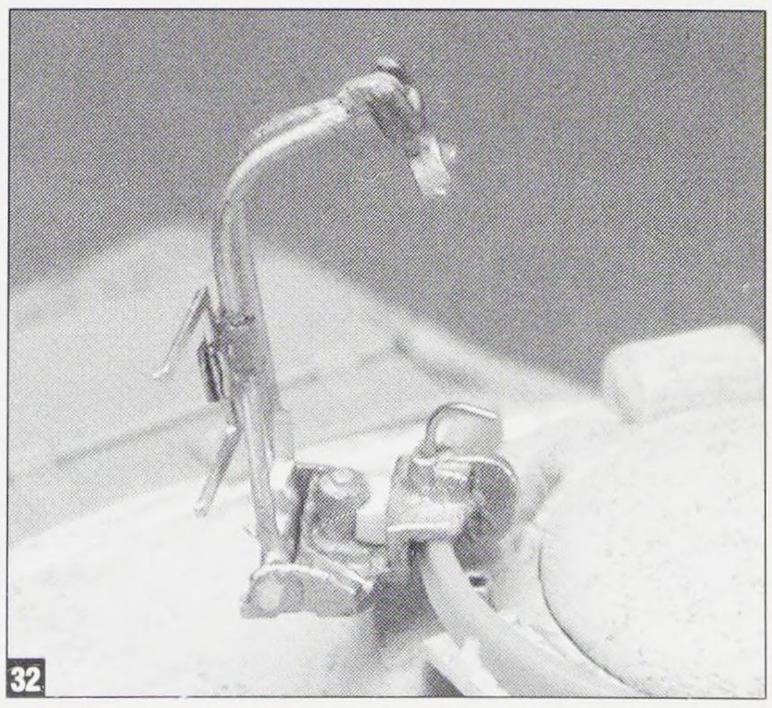
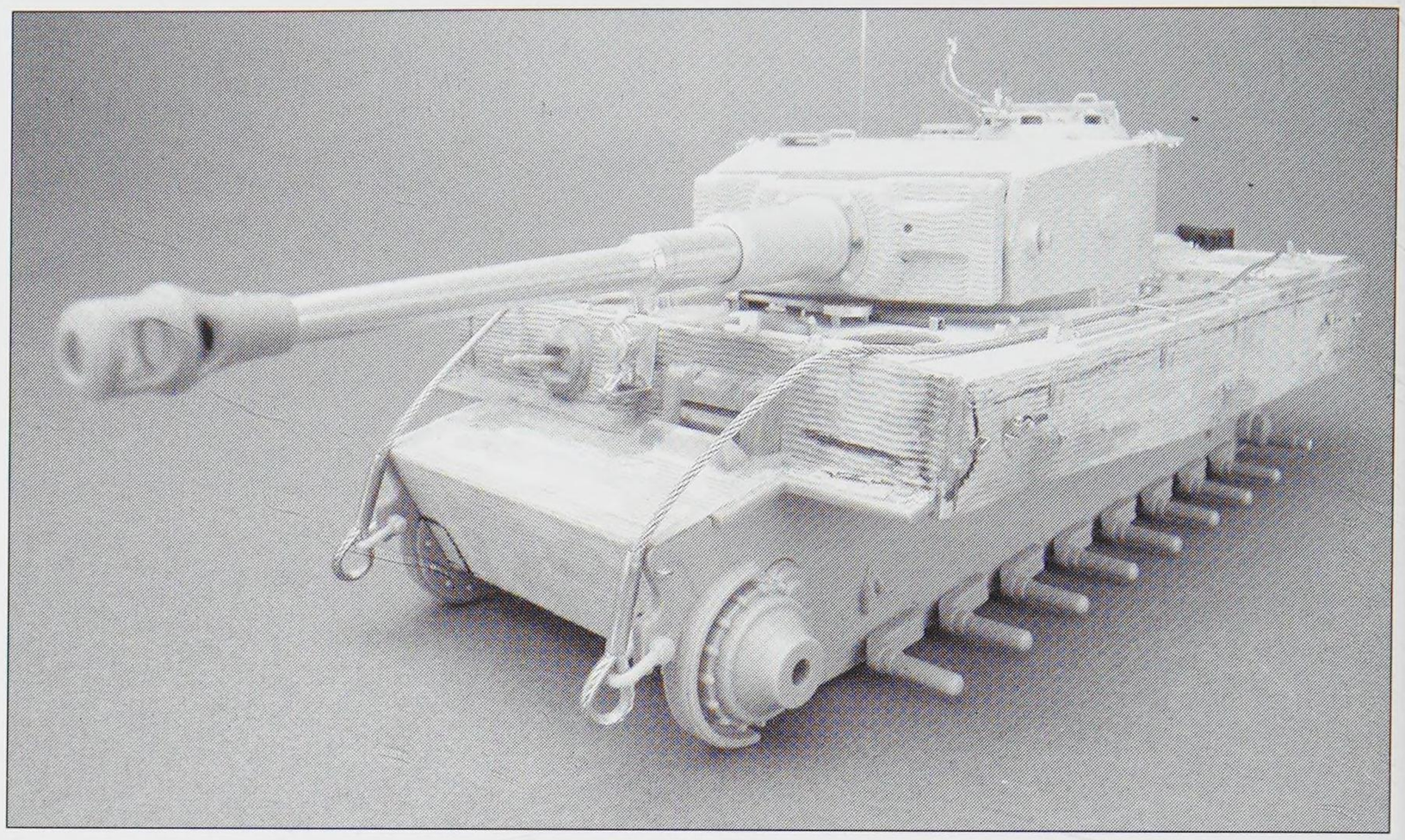
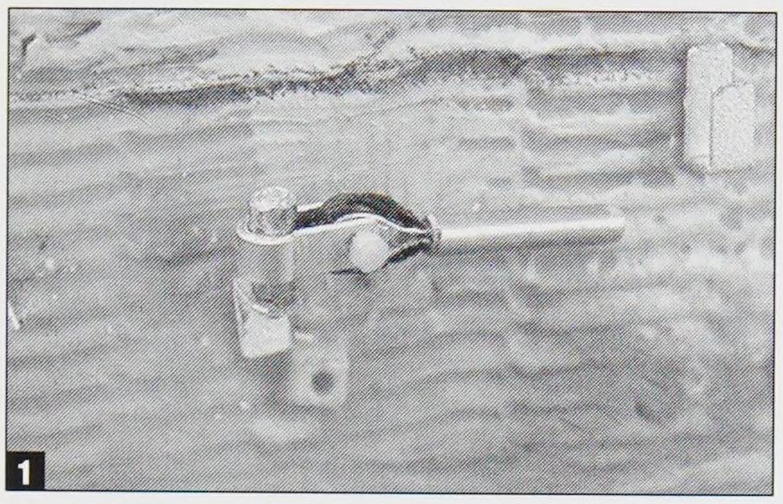

32

Panzerkampfwagen Tiger Ausf. E - Fgst. Nr. 251228

This is the last Tiger I model in this book and I'd like to take a few moments and reflect on the last nine models. OK, I'm done. I'm going to wax philosophical here and state that this model is an end, but also a beginning (how 'bout that, huh?). It's a beginning because this is actually were it all began for the modern Tiger modeler. It may be the last model, but it was the first kit. The late Tiger I is where Tamiya decided to wade back

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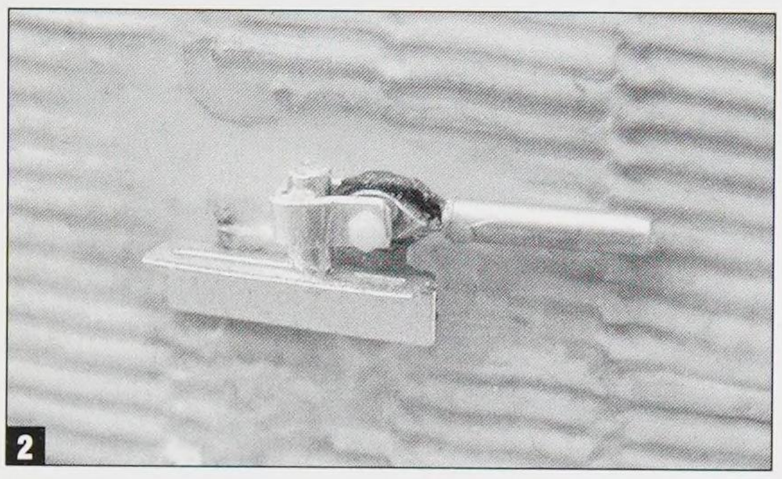
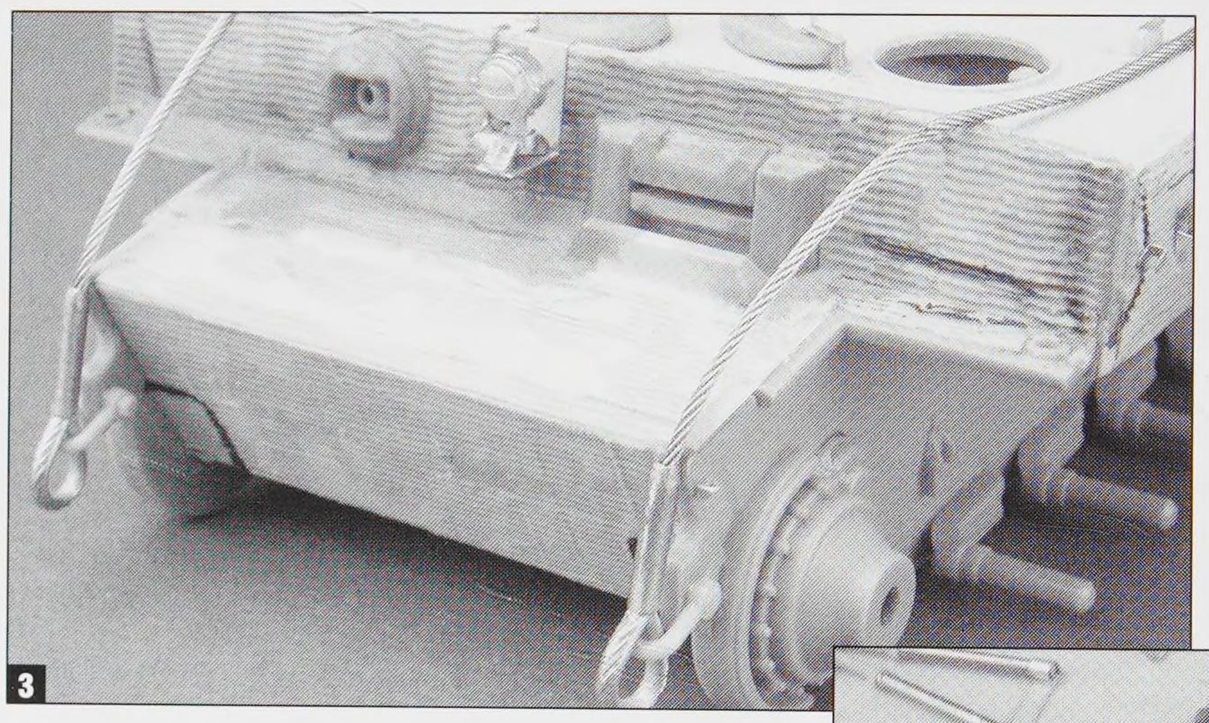

2

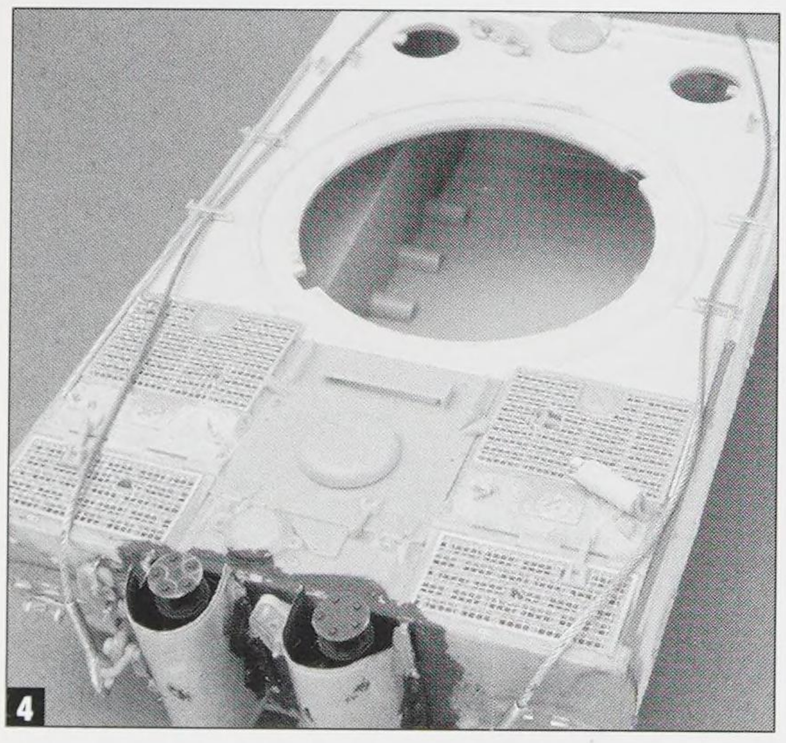
into the plastics market with a vengeance. This was back in 1988, when they released kit number 35146.

In spite of all the stuff I've done to all the models up to this point, this kit stands up pretty well. All of the distinctive features are here. The curvy front


3

tow shackles, the turret race guard, the bald engine deck vent and even the smaller muzzle brake is present. The model represents a June or later production vehicle.

Adding the Cavalier Zimmerit is a mite easier, too, because this is the kit and version it's designed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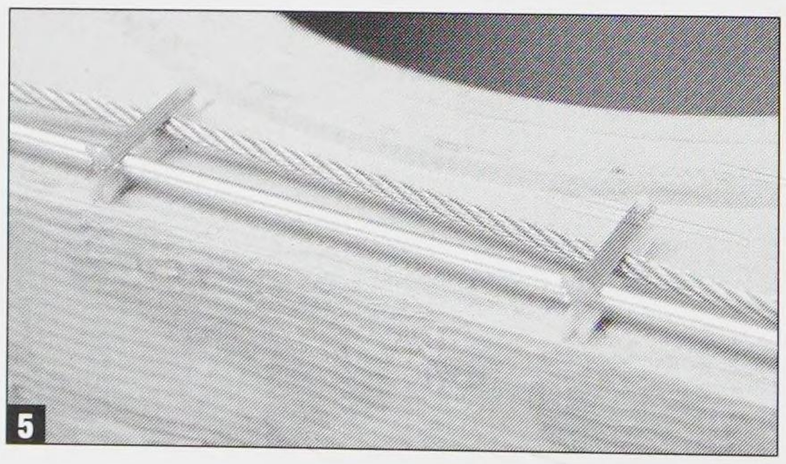
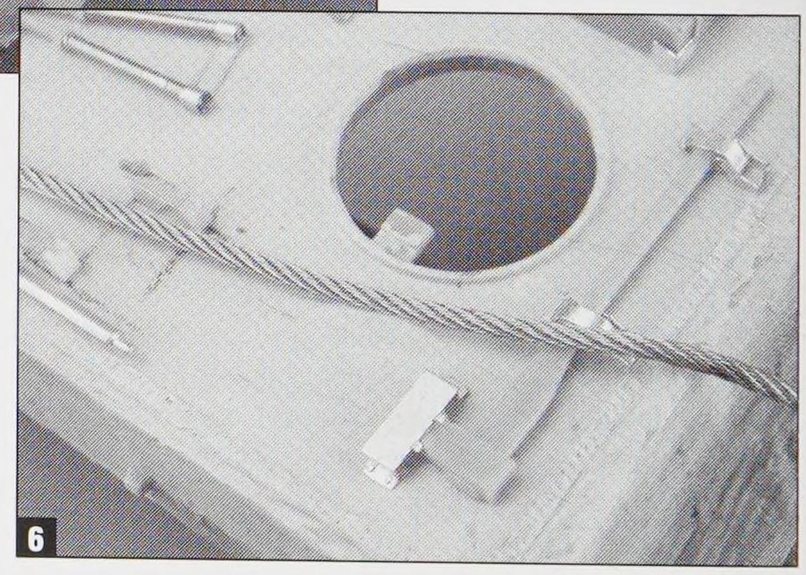

5

for. Mine's looking pretty messy in **photo 1.** Some of my texture coat is slopping off the top deck and putty stains are also seen. The pen marks are "reminders" on certain areas that I felt needed some extra attention. This photo is actually presented to illustrate the continuing saga of the track cables. The forward cable head is installed here and you can see the very tight clearances between the edge of the fender bolt line (fenders were not installed on this model) and the various brackets. **Photo 2** shows the rear cable head within its sliding bracket.

My inspiration for this model was any one of several tanks photographed during the retreat to ↑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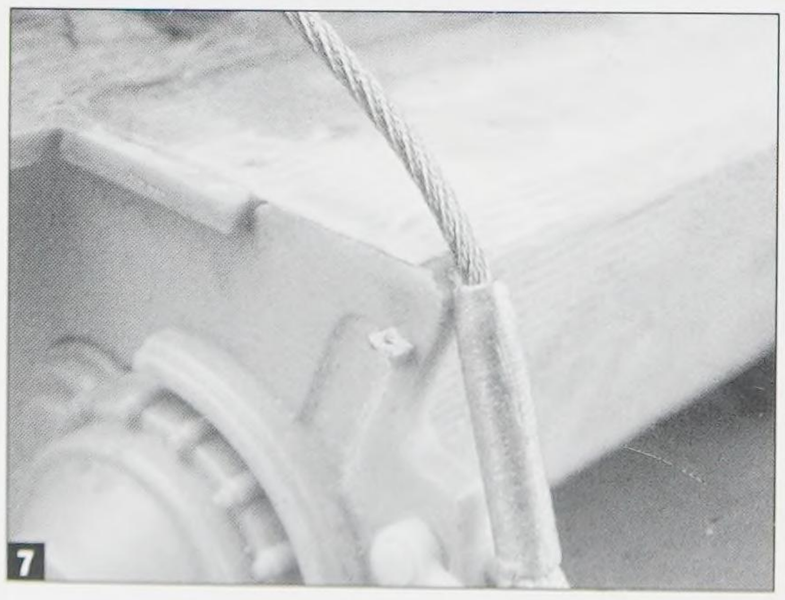
the Seine River in the late summer of 1944. These tanks had seen a lot of combat and were dirty and beat up. Because there was a, shall we say, "certain urgency" in their movement, many of these vehicles can be seen with their tow cables already hooked up. This was done to allow another tank to quickly extricate them from a hazardous situation.

I used the gun cleaning rod clamps as a guide and strung the cables through them. I've seen this done in several photos and I assume that it was done to keep the cables from slipping off into the tracks. **Photo 3** shows how the cables were attached to the front end. **Photo 4** gives an overall view of the cable routing. Also visible in this shot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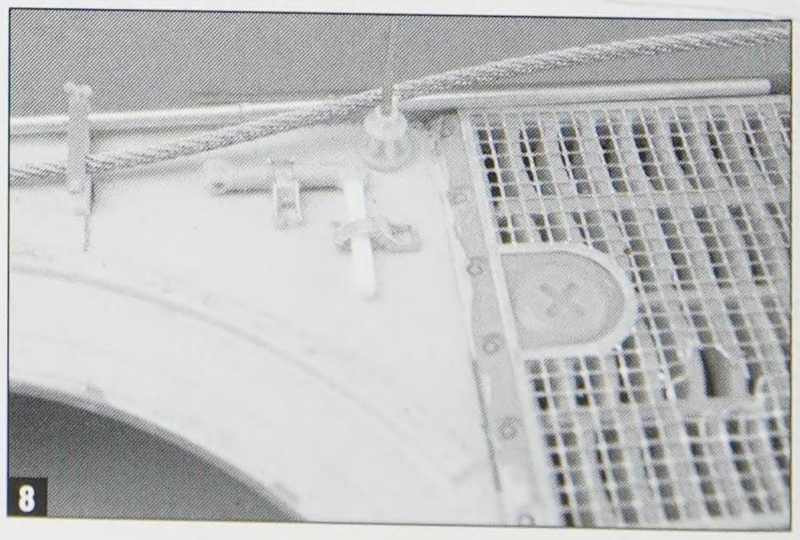
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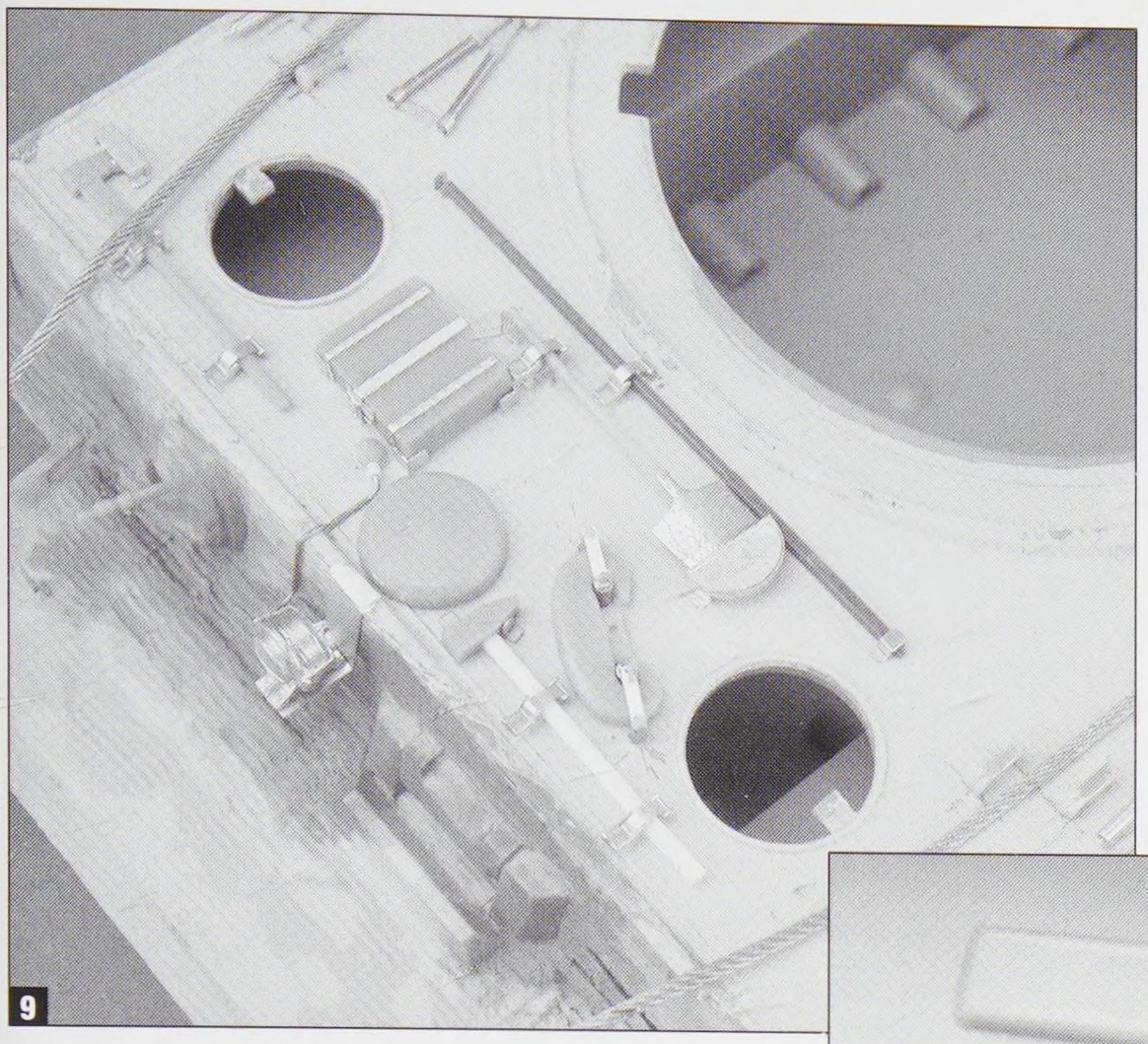


9

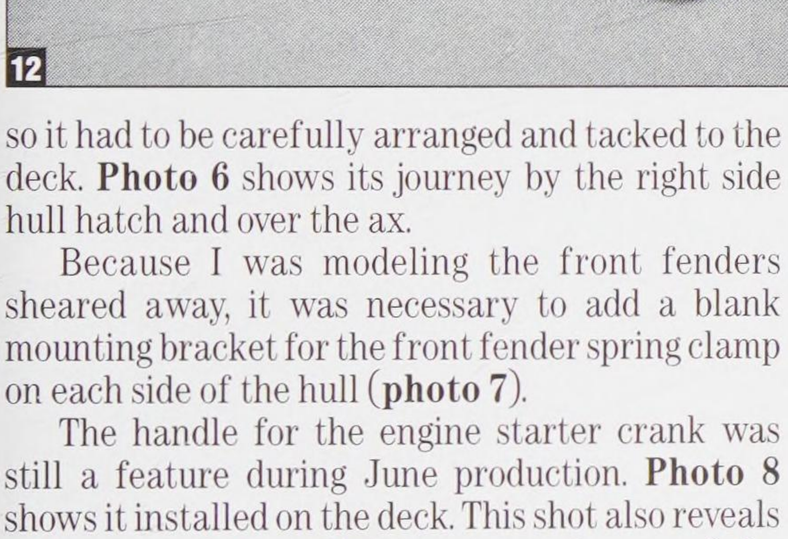
are the assembled gun cleaning rods. This is also a common sight on combat vehicles. Keeping a clean weapon was essential. You don't want to be screwing rods together when you're getting shot at! A closer view of the right side clamp and cable is seen in **photo 5**.

The cable that I used was a bit on the stiff side, so it had to be carefully arranged and tacked to the deck. **Photo 6** shows its journey by the right side hull hatch and over the ax.

Because I was modeling the front fenders sheared away, it was necessary to add a blank mounting bracket for the front fender spring clamp on each side of the hull (**photo 7**).

The handle for the engine starter crank was still a feature during June production. **Photo 8** shows it installed on the deck. This shot also reveals a bit more of the cable's journey and some of the damage that I inflicted on the engine deck screens.

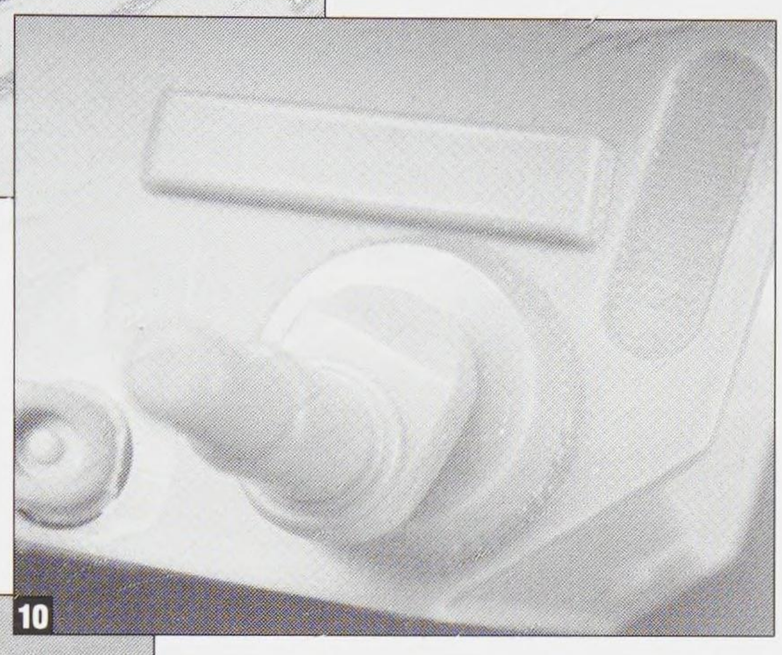
When the turret race guard was introduced in February 1944 at chassis number 250850, it necessitated moving the left side wrecking bar. This was moved to the area just in front of the turret where the ax was normally stowed, The ax was then moved to the front of the right side hull hatch. This final arrangement can be seen on my model in **photo 9**.



15

Sometime in February, or later, the track pin plate above the rear idler was replaced with a larger plate. This part is a bit simplified on the Tamiya kit, but because it's barely visible with the tracks on, I opted for a similar replacement. The before and after is seen in **photos 10 & 11**.

Also in February the Tiger I started wearing a smaller idler wheel. The size went from 70cm to 60cm. It's ModelKasten to the rescue with a terrific looking little white metal set. The MK set provides all new parts, but the front and back hubs and the base plate are essentially the same. The central hub and metal tires are all new. The parts can be seen all laid out in **photo 12**. It goes together in just a few minutes and the kit idler and the completed ModelKasten part are seen in **photo 13**.



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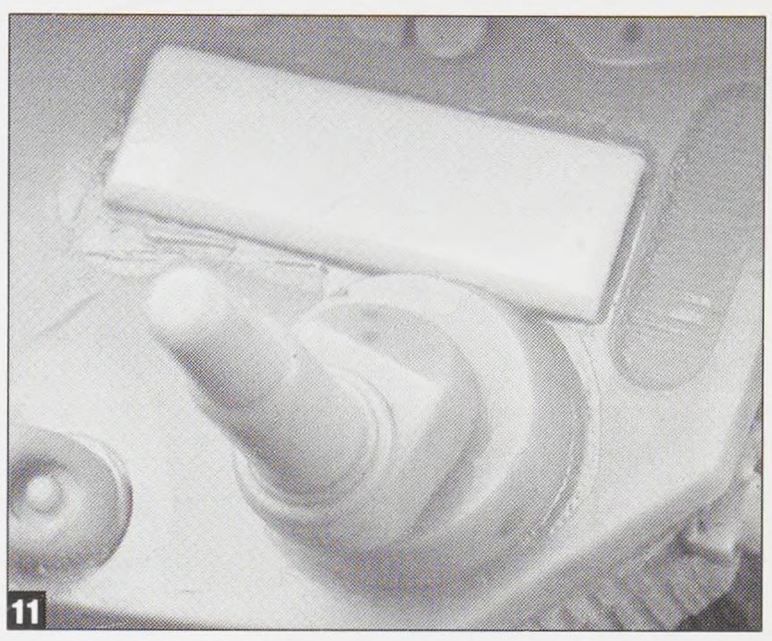

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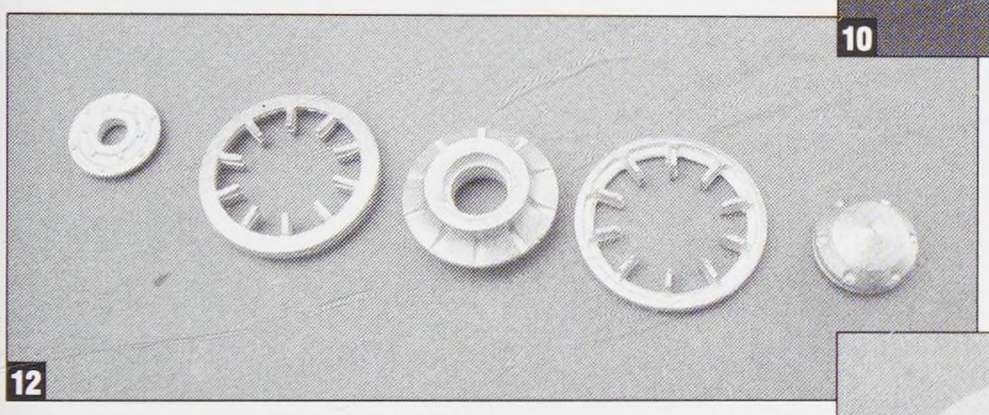

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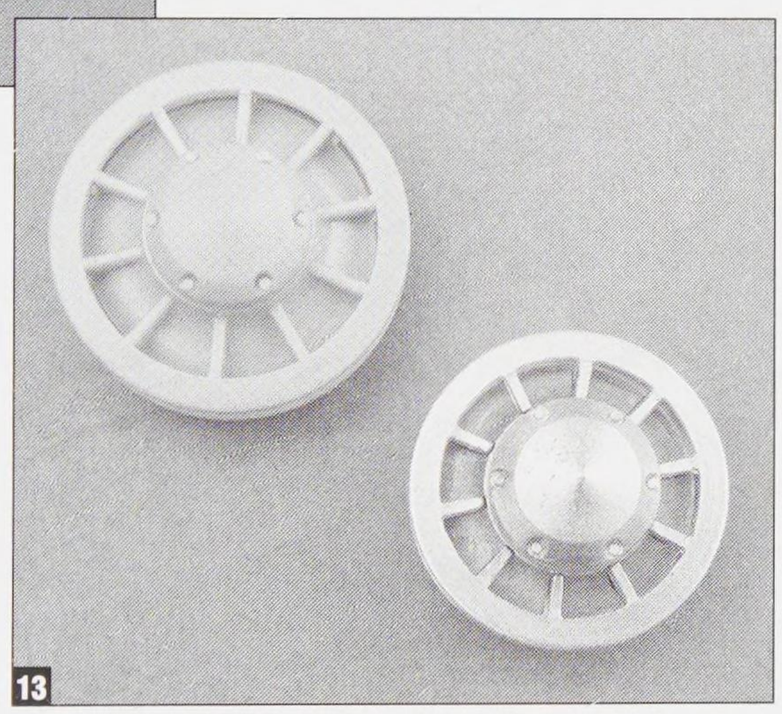
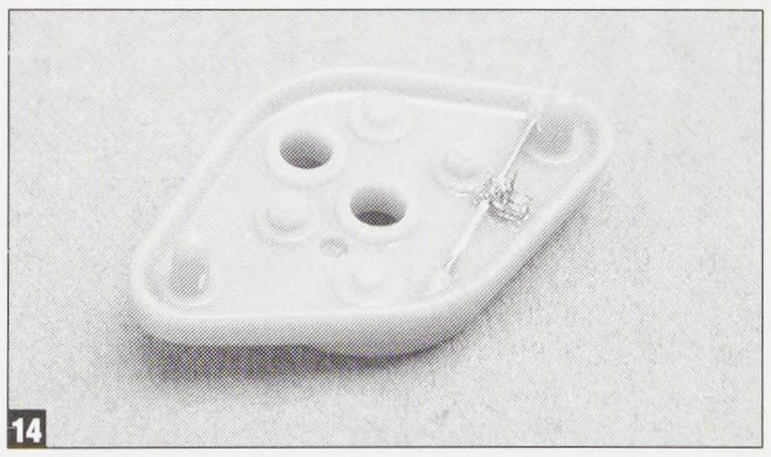


13

The final version of the rhomboid-shaped starter plate is provided in the Tamiya kit. It needed only minor modifications to match the drawing in this book (**photo 14**). One small thing that I did not notice until after the model was complete, was that the two bolts near the curve on either side of the plate are actually located within a shallow recess. Tamiya has rendered this area as raised. This would certainly be easy enough to fix. At least you know!

Another part of my combat weary look was to have the jack just lying on the rear deck (quick and easy access, you know). This meant the sexy little Royal jack brackets would be empty and this would give me a chance to show them off a little. They were built off the model (**photo 15**) and then all the parts were added at once. This includes an empty clasp for the jack's handle (**photo 16**). Photo 16 also shows what I thought would be left once the rear fenders were sheared away.

More minor damage is seen in **photo 17**. This is my rendition of a wrecked convoy light. The bracket is from the Aber set, the bulb ends were punched from styrene and the broken wires are, what else? Thin electrical wire. The larger empty wire is solder. This shot also provides a closer look at the busted rear fender hinges.



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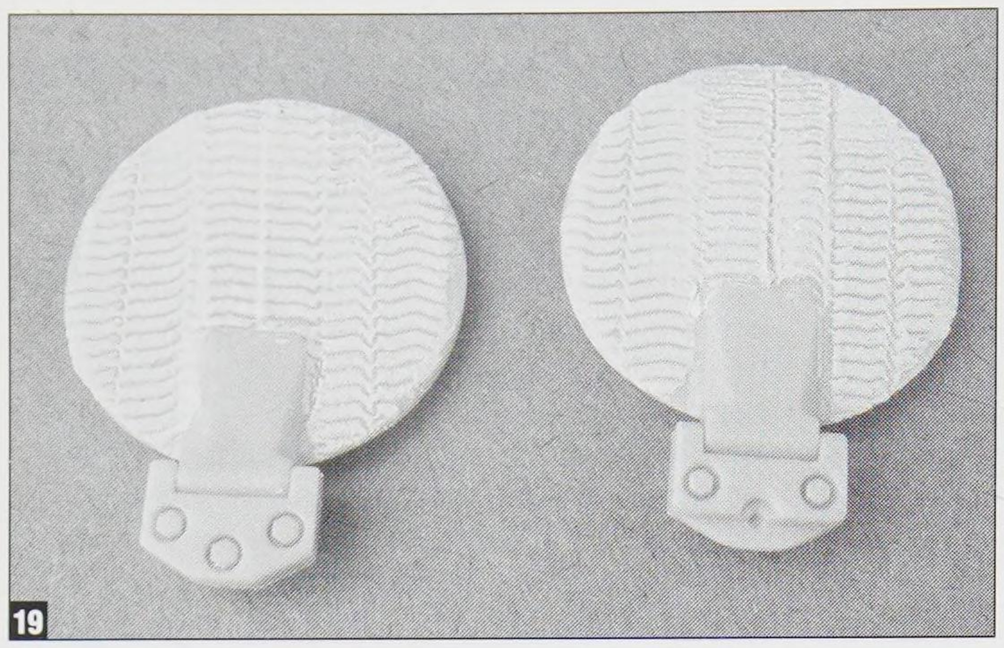


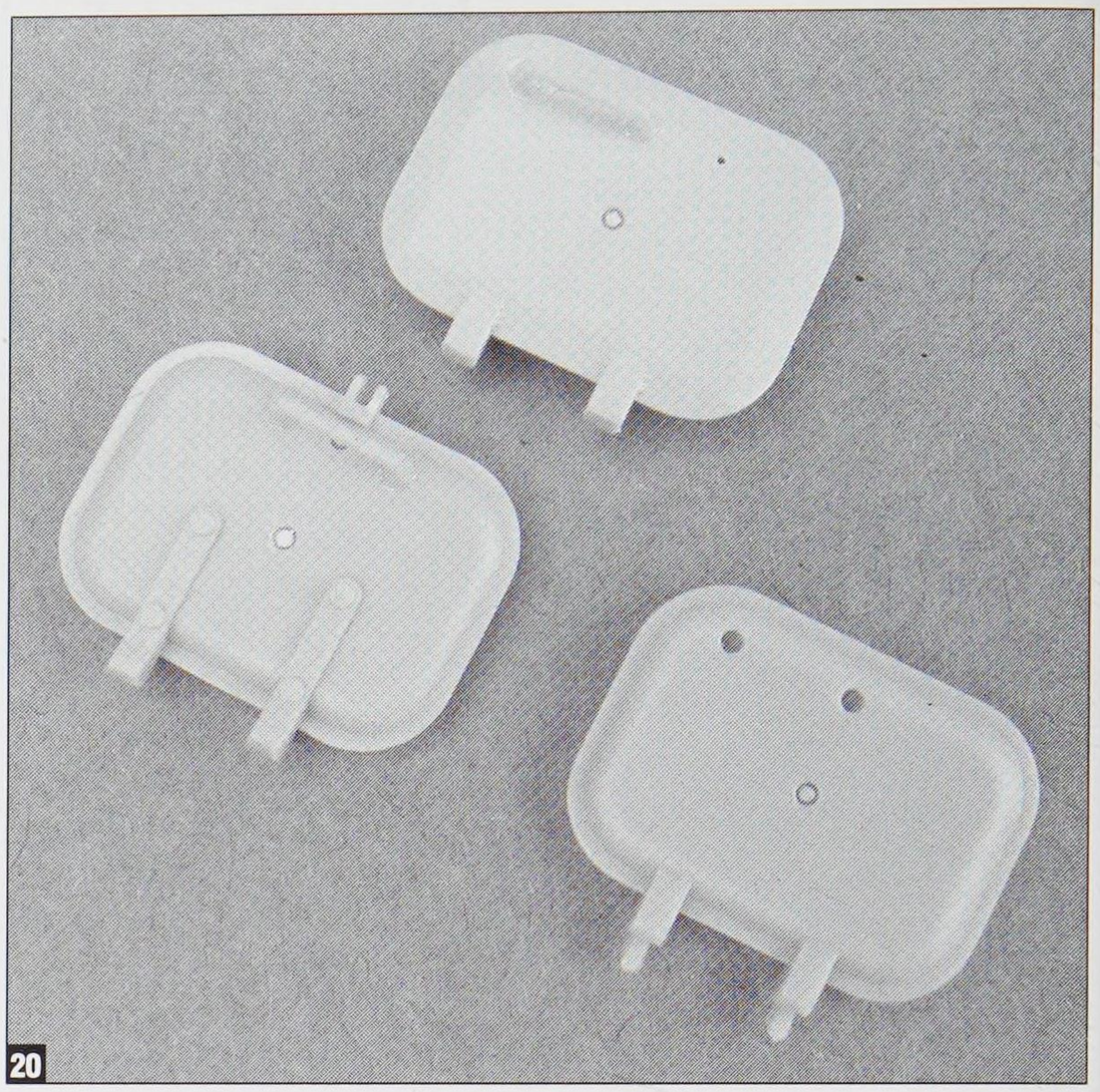
19

Let's talk Tiger turrets

Some small, but interesting things were happening on the turret during this period. Once the ring guard was introduced, the turrets on hand needed to be modified slightly. The hinge for the escape hatch now interfered with the guard, so it was cut back to clear it. This form of the part is what's included in the Tamiya kit. In the comparison shot (**photo 19**), it's on the right. Note that the hole for the bolt to pass through on the bottom is still present. There was another version seen that was manufactured with the notch. This would also be appropriate for a tank of this time period. I have applied Zimmerit to the parts shown in photo 18. This part is supplied in the Cavalier set, but I wasn't satisfied with it. I opted for the kit parts and this was also the case on the previous two models.

There was a wide range of loader's hatches used on the Tiger I turret. The drawings on page 50 give you the run down. There are also quite a few options scattered throughout the Tamiya kits. A few of these are shown in **photo 20**.

The late kit provides two choices. They are both renditions of the 15mm-forged hatch and are correctly identified as late and final versions. The final version is the squared design also used on the Tiger II (seen at the top of photo 20). The earlier version is quite similar to other, earlier hatches, except that it has much shorter hinges and an offset handle. This hatch can be seen at the lower right of photo 20. The hatch to the left of the photo is an earlier one (example "B" on page 50) modified by moving the lock to the center. This was accomplished by drilling a hole and inserting a slightly smaller width rod in the hole and trimming it flush. This was the hatch used on Tiger 007. Oh—by the way, the hatch on the top is actually from the Tiger II kit.



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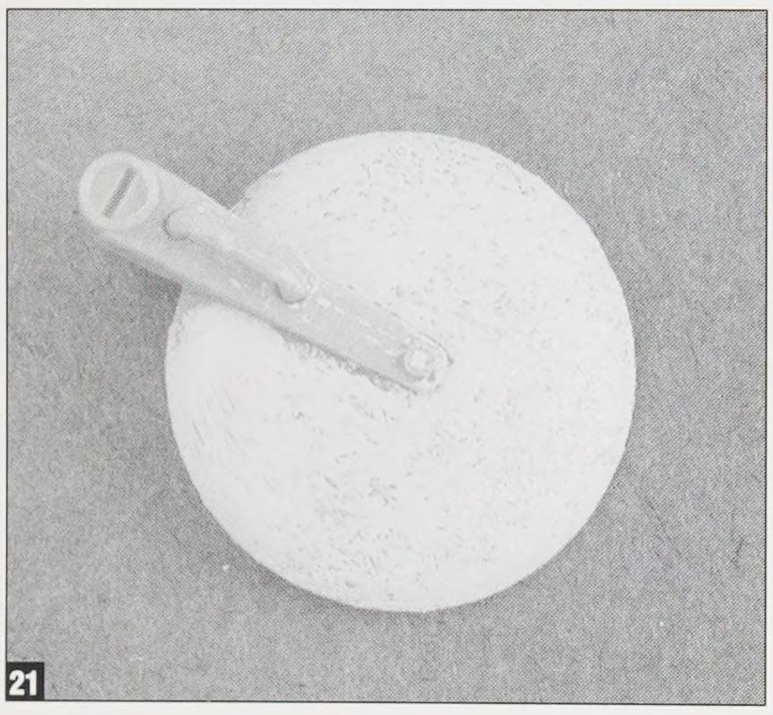

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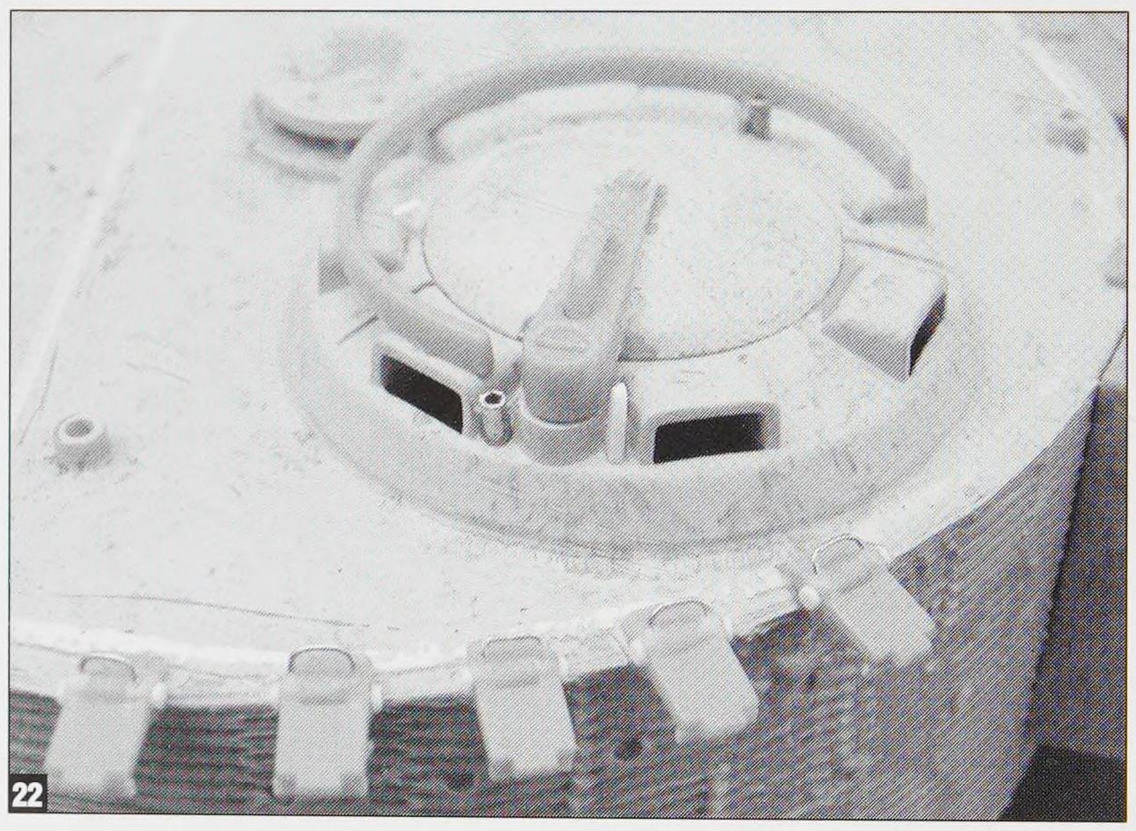


22

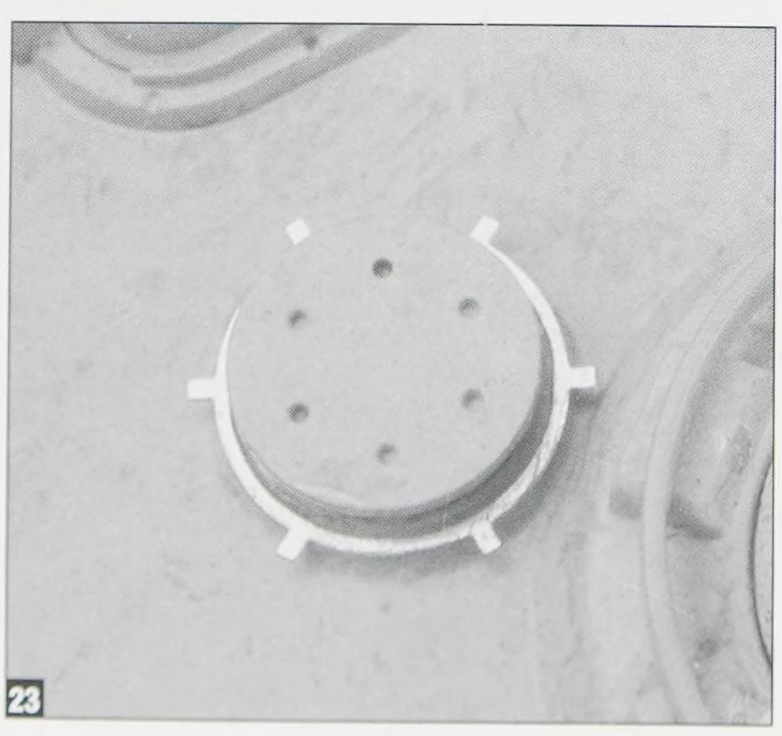
I thought this part was rendered better.

The cast commander's hatch received some extra texture using the method described in the general detailing section (**photo 21**). This was just the start of several small modifications made to the cupola. The final result is seen in **photo 22**. Among the parts added are the two sockets for the canvas rain cover, the main hatch stop (next to the base of the hatch arm) and the smaller hatch stop on the forward periscope housing. I also cut slits into the base of the cupola to represent the drain slits introduced in June 1944. The Pilze crane sockets can also be seen in this shot, a feature introduced in May, 1944.

Not far from the cupola is the large, armored turret ventilator port. Aber provides a useful part to represent the flange for the wading flange (**photo 23**). It's kinda weird that this flange was still present this late in production, as the wading gear was dropped months before.

The final chapter in the battle damage story centers on the turret stowage box. I made a big 'ol hole in it using my Dremel tool to thin the plastic from behind, then punching it through with an X-acto. An appropriate "entry wound" was added to the opposite side (**photo 24**).

Some turrets produced after April, 1944 used the same, smaller muzzle brake as the Tiger II. A whole separate barrel is provided in the late Tamiya kit, but I just used the muzzle brake, inserting it over an Elefant barrel (**photo 23**). The small clip from the Elefant set was also added to the rear of the brake.



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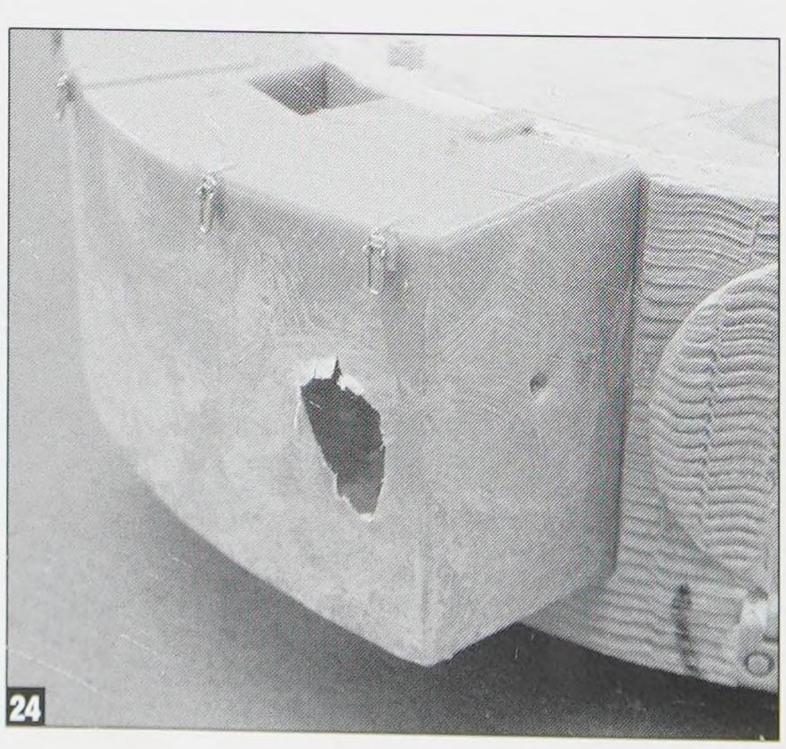

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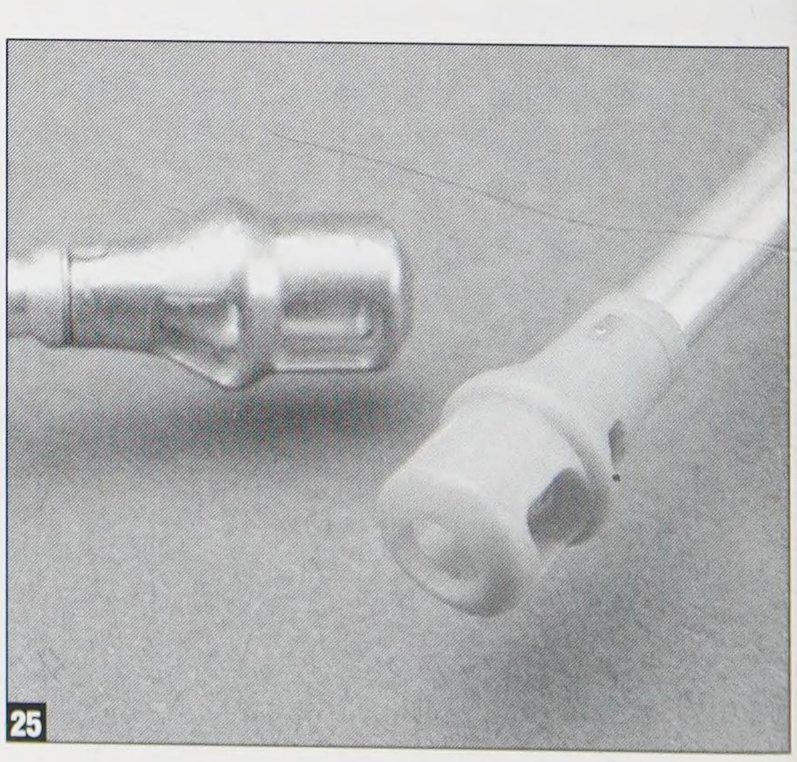
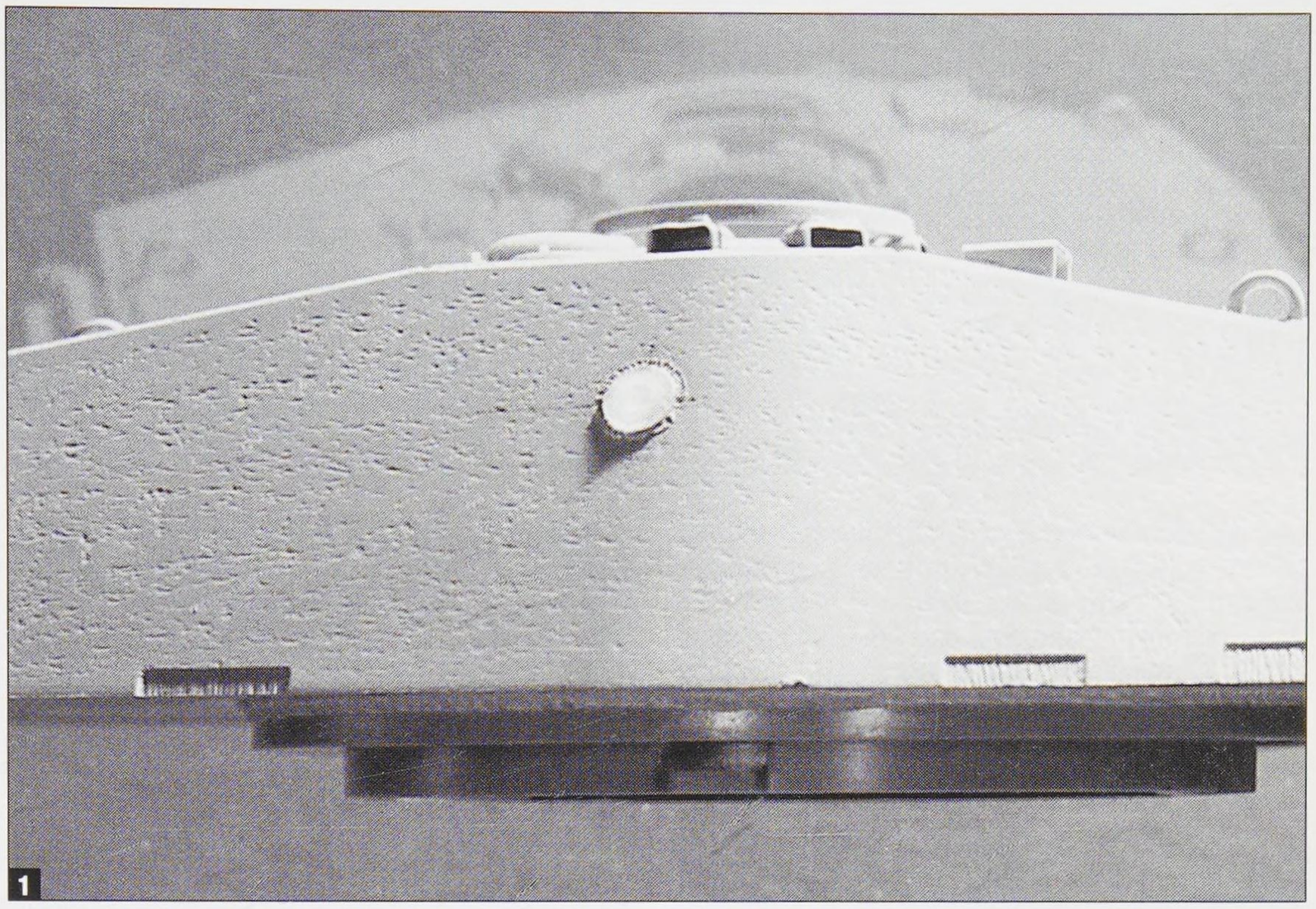


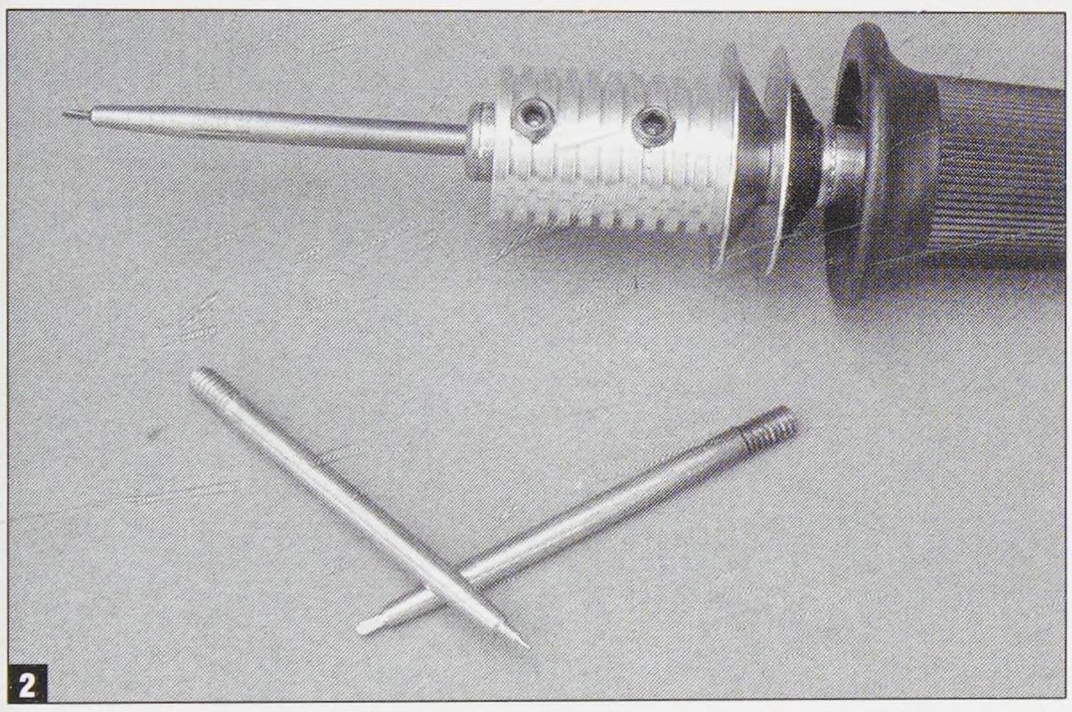
25

Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. V1

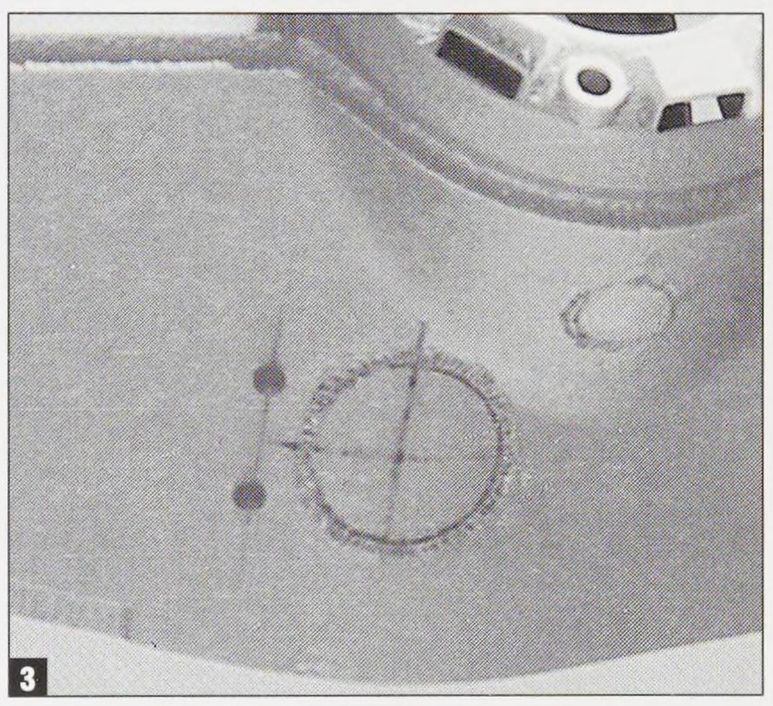
O.K., I have a confession to make. I didn't build this kit. It was actually built by a buddy of mine we like to call Fish (it's a long story). Fish has an interesting building technique, in that he often relies strictly on his ability to scratch build. This even includes really small things that most of us would turn to brass for. Let's say he is definitely committed to styrene as a material. I thought this stood as a very interesting contrast to all the aftermarket stuff in this book. Let's join Fish already in progress...


1

The Tiger II prototype differed from the production versions in many ways, most notably in the early turret designed by Krupp for the Porsche Type 180 and the flat fenders similar to the ones used on the Tiger I's. The prototypes also had an eighteen-tooth drive sprocket and early style track. In the past, this Tiger has been referred to as the "Porsche" Tiger and the production Tiger as the "Henschel." According to current references, Krupp designed both turrets. The so-called "Porsche" turret was manufactured for the type 180 tank designed by Dr. Porsche that was never built (*see the Accurate Armour section in "Tiger Resources"*). However, fifty turrets were completed and these were used for the Henschel designed Tiger II. An improved turret (the so-called Henschel) was made and fitted to all subsequent vehicles.


2

Tamiya made a big splash when they released their all-new kit of the production version of the King Tiger several years' back. This followed a trend for Tamiya, started with their release of a new tooled Tiger I, of making the kit more accurate by deleting all the motorized components from the lower hull and including separate torsion arms, etc. With a little work, this kit can be backdated to represent the prototype vehicle.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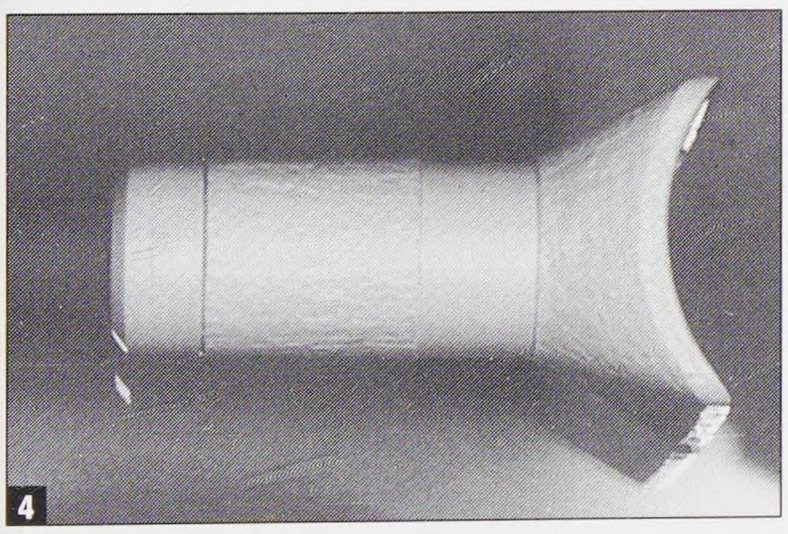
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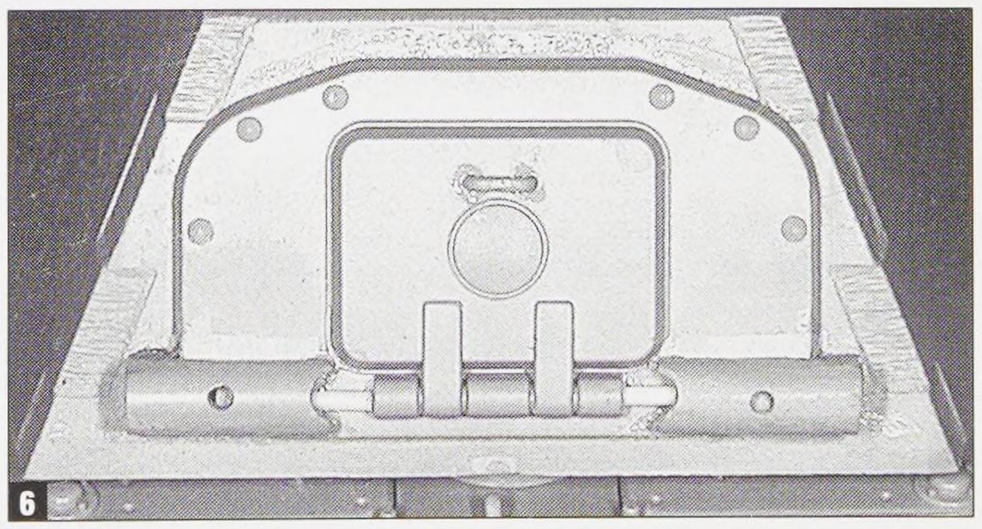
Ladies and Gentleman, the turret

The most noticeable differences of the early turret are the two pistol ports on both sides of the turret and the spent shell-casing door. I fabricated the pistol ports from acrylic rod using my lathe (**photo 1**). The shell-casing door was welded shut on the prototype, so I did this using a home made welding tool (**photo 2**). A little background on this tool: I had been looking for a way to simulate weld beads and was trying to hunt down a "pyrograph," when I spied a Mylar cutter in a local hobby shop. I also have seen this unit sold in Letungs catalogue as a wood burner. It's made by Lenk in Kinston, N.C., model L12SP. It has small removable brass tips that screw in, but got too hot to use with plastic. At first I was going to use some sort of rheostat to control the heat of the tips, but then I struck on the idea that if I increased the mass of the tip (i.e. its length), the temperature would come down. I found some nails of the appropriate diameter and cut the length to about two inches. Next, I chucked the nail in my lathe and turned down one end. Then I finished it off with a file to give it a rounded chisel profile. If you don't have a lathe, the nail is soft enough to be easily worked with files. In the other end I cut threads using a die. I also later added a heat sink to the end to further dissipate the heat.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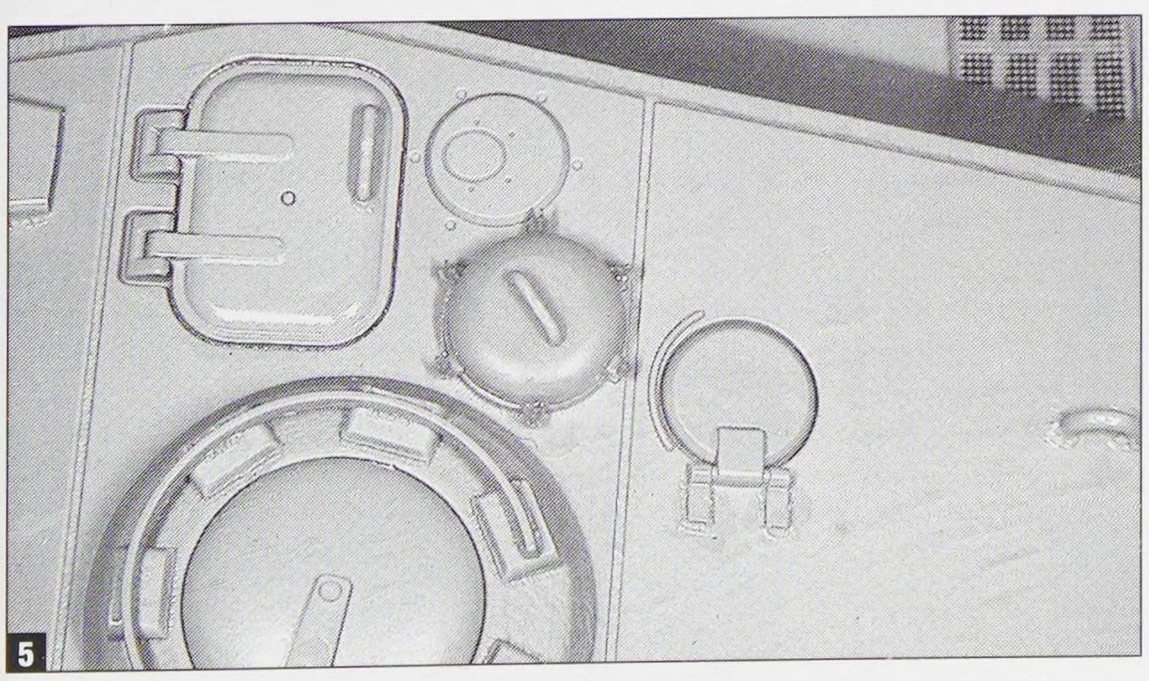
I generally use this in conjunction with a one-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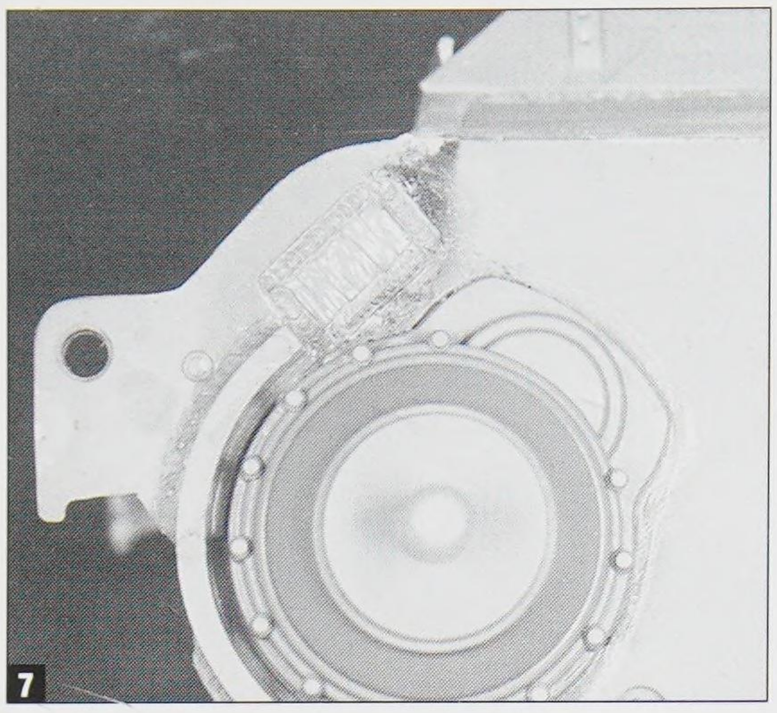
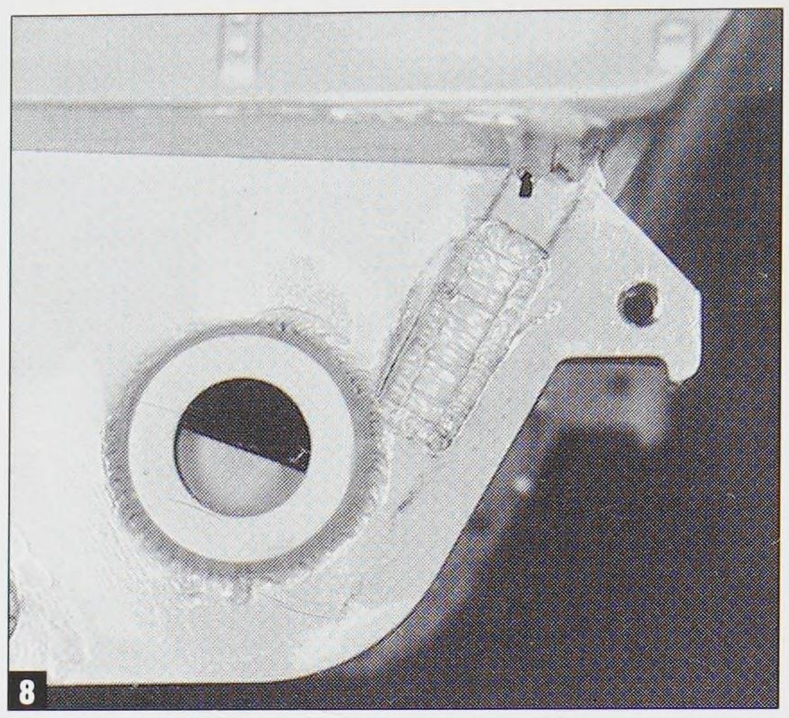
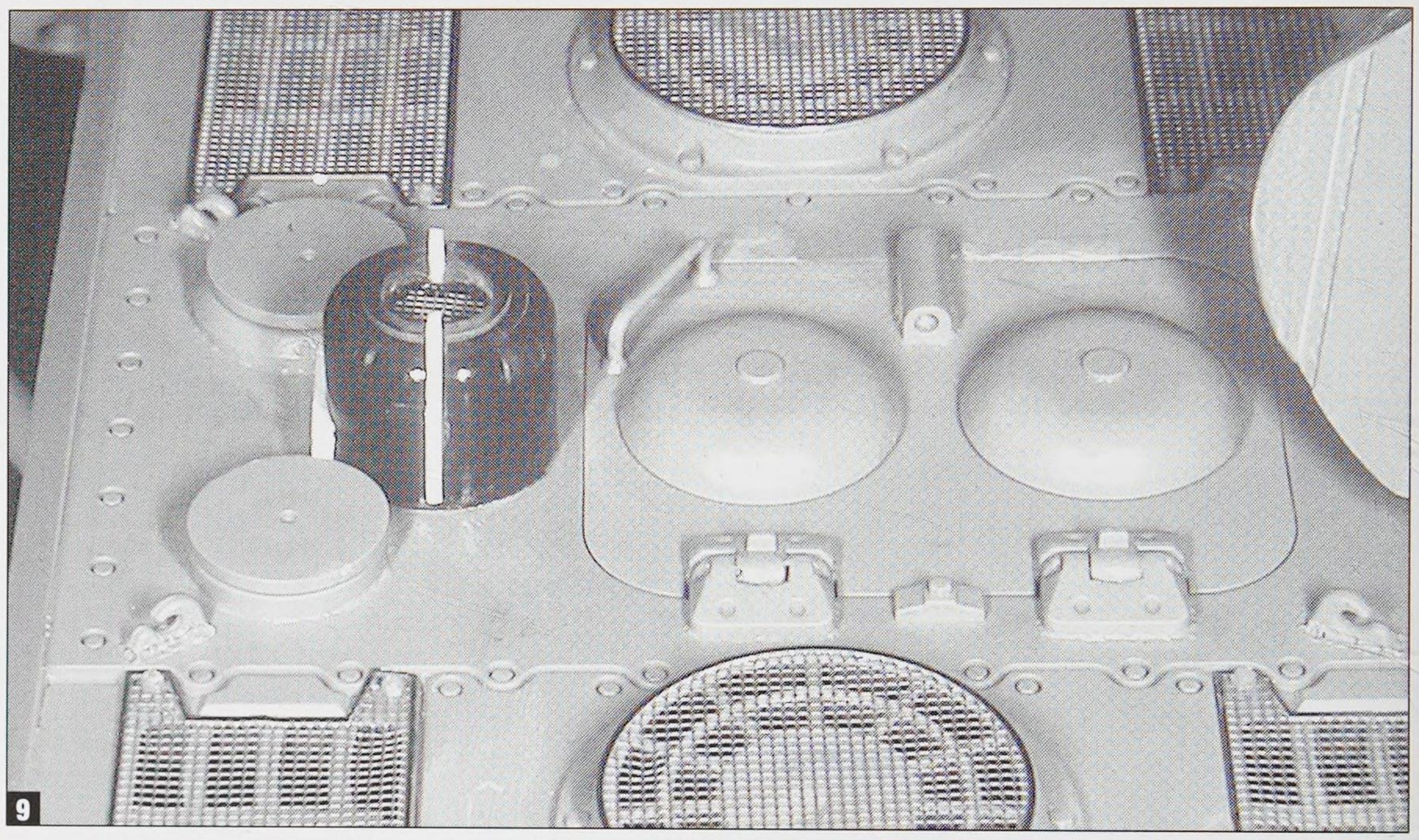
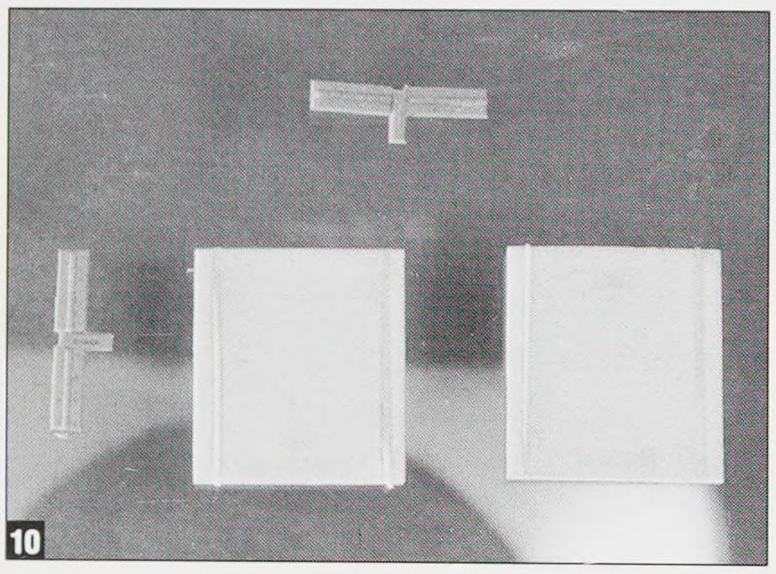




inch stainless steel ruler, running the tip along the ruler's edge to keep the weld heads running straight. I hold the tool at about a 45-degree angle and use short, jabbing motions. For filling corner joints, I glue Evergreen .020 rod styrene into the joint and let it cure overnight. Otherwise, the tool will melt right though the model. In addition, I've made other tips for getting into hard-to reach places.

Back to the model. The prototype had the pistol ports welded shut, as well. Two ModelKasten conical bolts were added near the shell door (**photo 3**). The front of the turret and gun mantlet was roughed up with a motor tool and a small round bit to give them a cast look. On the prototype the gun mantlet had a section that looked like it was milled, so I did this with my lathe (**photo 4**). The prototype also had a cover over the ventilator. I got one from the Tamiya kit of the early Tiger I. I also added some ModelKasten wing nuts to the cover (**photo 5**). The turret ring had a prominent weld bead where it attached to the turret. I made this by first gluing



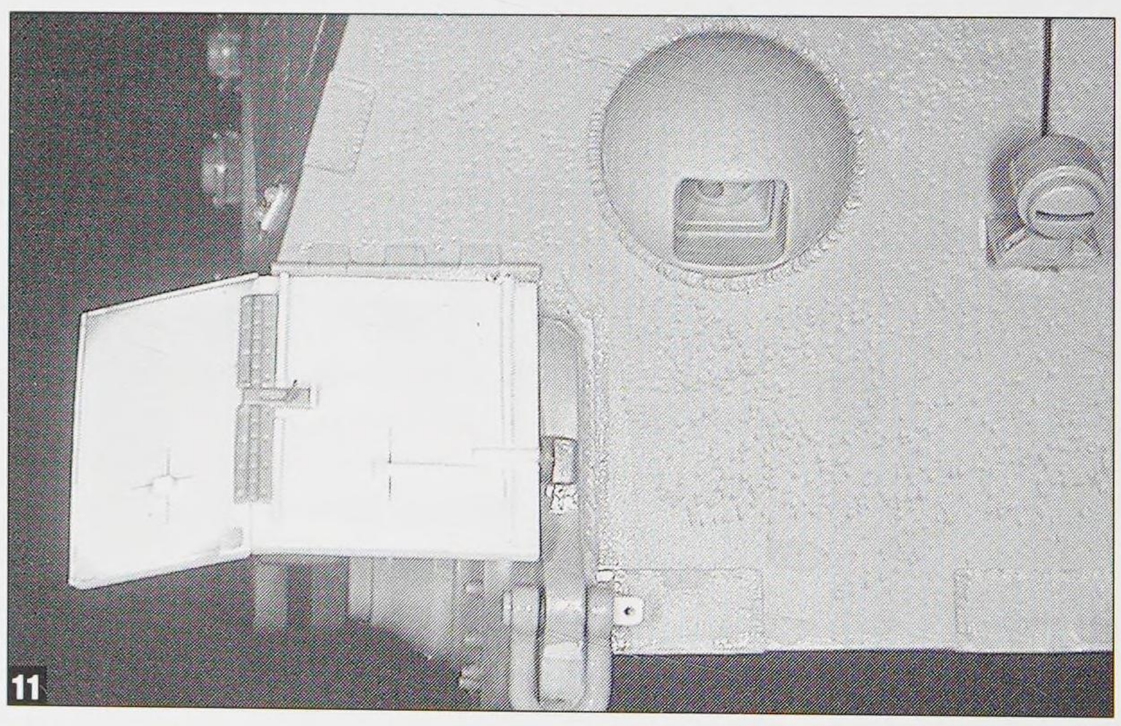


thin styrene rod around the base and letting it dry, then going over it with my weld tool. Finally, I tackled the rear of the turret. The rear escape hatch is sprung by two torsion bars on both sides of the hatch. These bars have protective covers over them. In the Tamiya kit these are represented as sort of a "D" shape cut in half and molded into the hatch part. However, the kit has the "C" shaped parts, too. I cut off the bar covers from the hatch part and filled the area underneath with Milliput. I then added the torsion bars from styrene rod and glued the "C" shaped covers over these and added styrene strips in between the turret back and the covers. (**photo 6**)

And now, a word from our hull

One of the obvious differences on the prototype Tiger II compared to the production Tiger's was the flat front fenders, but the hull had other subtle changes, as well.

I started off by spraying the inside of the hull



flat black. I then assembled the basic hull halves and trimmed the rear hull panel to fit.

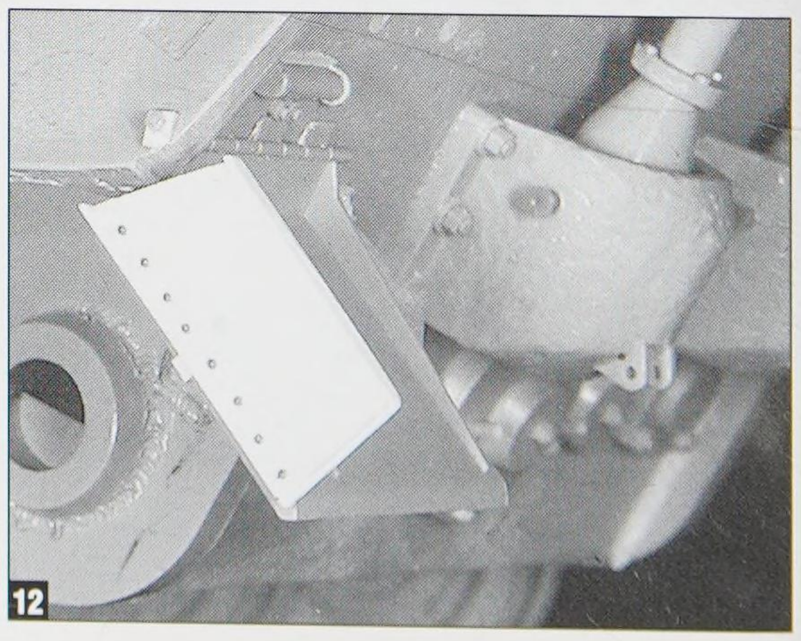
Since the prototype carried no tools, I filled all the holes with putty and sanded them smooth. Next, I made weld beads where all the joints come together. I also made the interlocking weld joints where the front and rear armor plates come through the sides of the lower hull, again using my weld tool (**photos 7 & 8**).

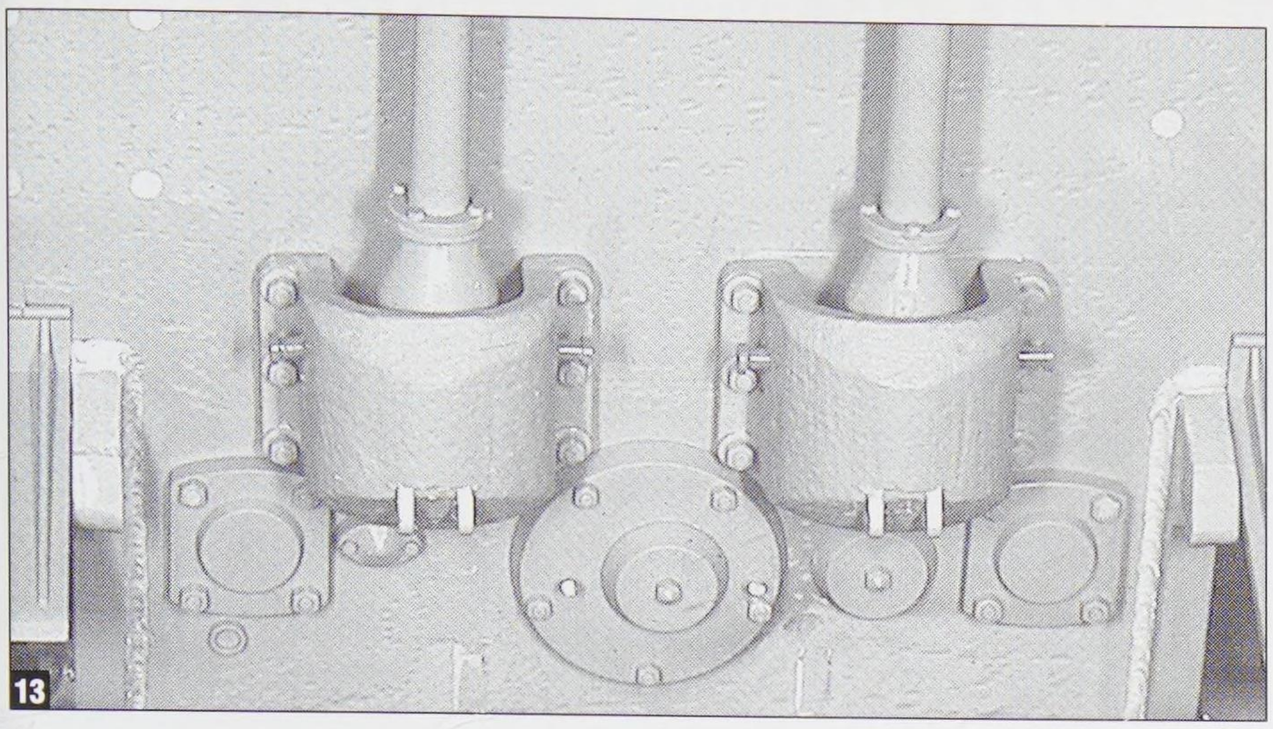
The front and rear towing lugs on the first 50 Tiger II's were different than the rest of the production run. The front lugs do not have a cutout in them and are straight up and down. The rear lugs are angled at the top. I used scrap styrene and putty to fill in the cutouts on the kit and sanded them to their final shape (also seen in photos 7 & 8).

The prototype had a prominent hinged cover over the snorkel tubes. I carefully cut off the kit snorkel plate and sanded the engine deck smooth. I then fabricated a new one on my lathe using acrylic rod. This was hollowed out to permit a photo-etch screen to be placed inside and slots were cut on either side for its sheet styrene "wings." I made the hinge from square styrene rod. Before gluing this cover to the kit's engine deck, I painted the inside of the cover flat black. Show Model photo-etch screens were also added to the engine deck grills. All this can be seen in **photo 9**.

The front and rear fenders were made from sheet styrene and strip, and the hinges were sliced off a spare set of rear fenders from another Tiger kit. I had all the fenders folded up, except for the front left fender. I glued tiny rivets on the folded up fenders I got from an Italeri HUMVEE kit. Years ago, I bought a bunch of these at a sale somewhere just for a source of tiny rivets. **Photo 10** shows the basic parts, while **photos 11 & 12** show the results.

Leave it to the Germans to make a right and left exhaust cover. This is correctly represented in the kit. If you look carefully, in addition to the lugs on the right cover for the hand crank, you'll notice that the shapes are slightly different. Unfortunately, the prototype was fitted with two right side covers. I got a second right cover from a spare kit and the results can be seen in **photo 13**. The covers also have lifting lugs on each side to ease removal. The ModelKasten kit of the

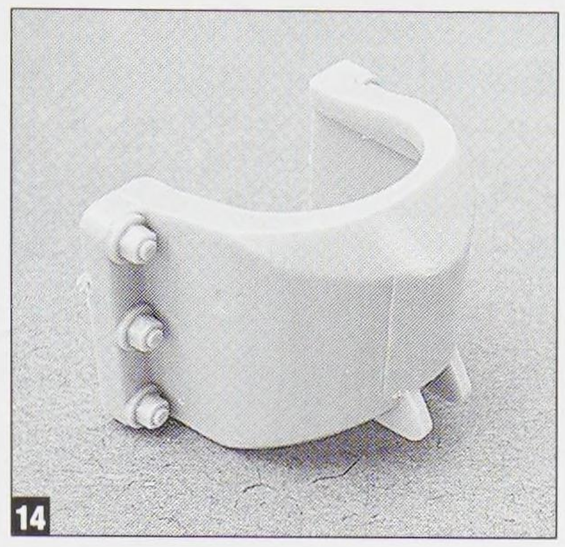




Tiger I workable tracks has these lugs. What is really interesting is that although Tamiya did not include these parts in their kit, they did mold tiny cutouts into the exhaust covers where they go. This makes aligning the lugs a breeze (**photo 14**).

The prototype had an eighteen tooth drive sprocket and a different type of track. At one time DML offered a separate set of transport tracks, #3810, derived from their Panther II kit. If you have a spare Panther II kit lying around and are tempted to use both the tracks and drive sprocket, be advised that the sprockets are slightly different between the King Tiger and the Panther II. Friulmodellismo also makes a set of eighteen tooth sprockets and transport tracks. But I'm terribly cheap, so I went with the plastic option.

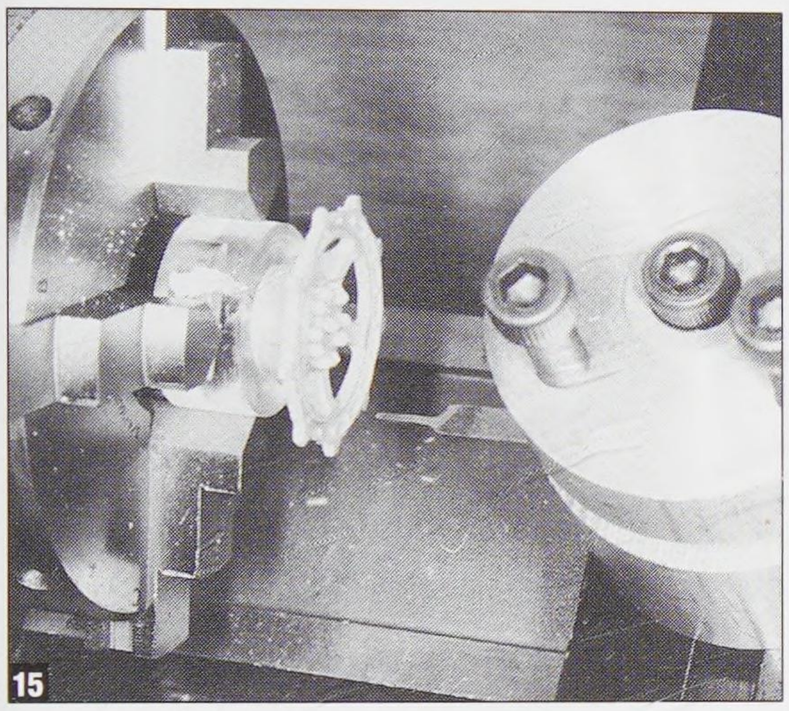
Since I had a spare Tamiya Tiger kit, I decided to make my own eighteen tooth sprockets. I made a mandrel on my lathe and cut a hole in it so the sprocket would fit into it. The reason for this is so that the sprocket would run true. (Any sort of chuck; i.e., lathe, drill, etc. will run slightly eccentric). I then cut the teeth off so they would match the outside diameter of the sprocket (**photos 15 & 16**). The teeth were trimmed and glued to the sprocket in between the areas of the existing teeth (**photo 17**).

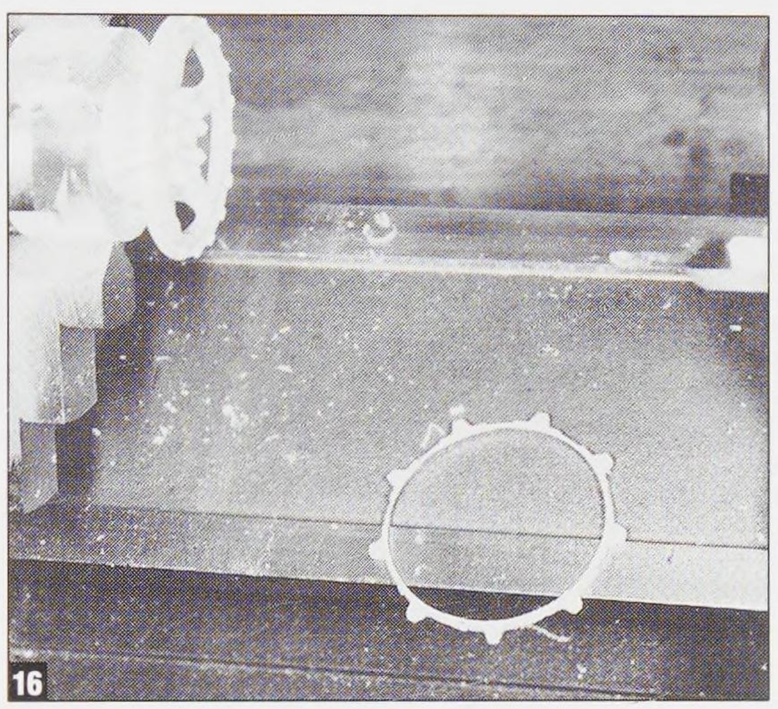


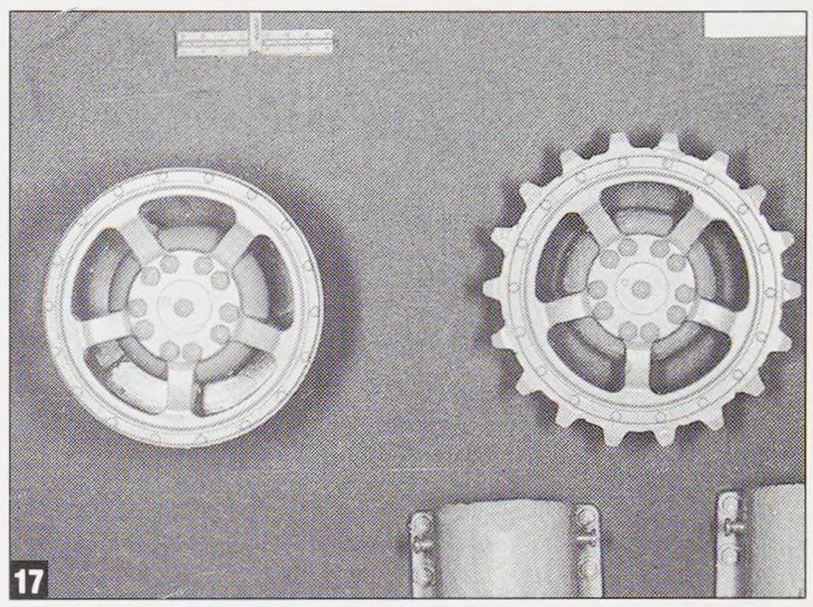
The hull received some other minor detail as well. The plate for removing the transmission that is fitted over the driver's compartment is missing the hatch locks and the lifting hooks. The hatch locks were taken from the Show Modeling photo-etch set for the King Tiger and the hooks were taken from the second Tiger kit. These are the hooks that go on the engine deck and were modified to give them a different shape (**photo 18**). I also left off the turret splashguard ring from the kit, as the prototype did not have it.

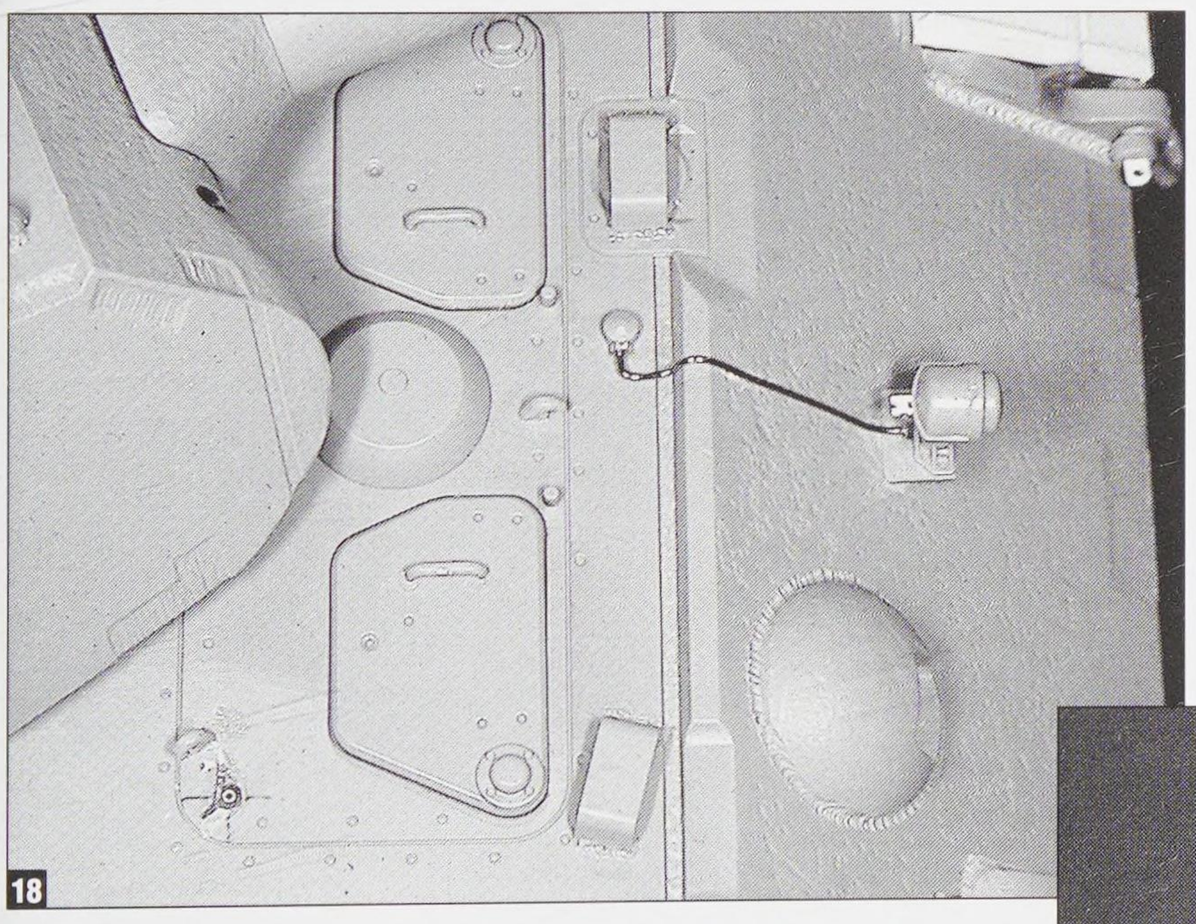
Like the turret and mantlet, the hull was also extensively textured using the method mentioned above (**photo 19**). The Bosch light was detailed by filling in the mounting hole in the hull and thinning the bracket. The clamp handle and cam were added to the rear of the light. On the real thing, the light has a removable blackout cover that's held on by this handle with an over center cam. I added some tiny hex nuts where the conduit goes into the light and hull (**also photo 18**). These are scale hose fittings sold by Detail Masters (adapter fittings, DM 3041) to trick out the engines of 1/24-scale autos. Check out the Detail Masters selection in your hobby store. They have a whole line of aircraft fittings and braided hoses to boss-out your iron horse. The conduit itself was made from copper wire.

I chose to leave off the side skirts. I added strip styrene to beef up the skirt mounting plates and also added Grandt Line nuts. If you wish to add the side skirts to your model, you will have to remove the flange that covers the joint between each section of skirt, the prototype didn't have them.



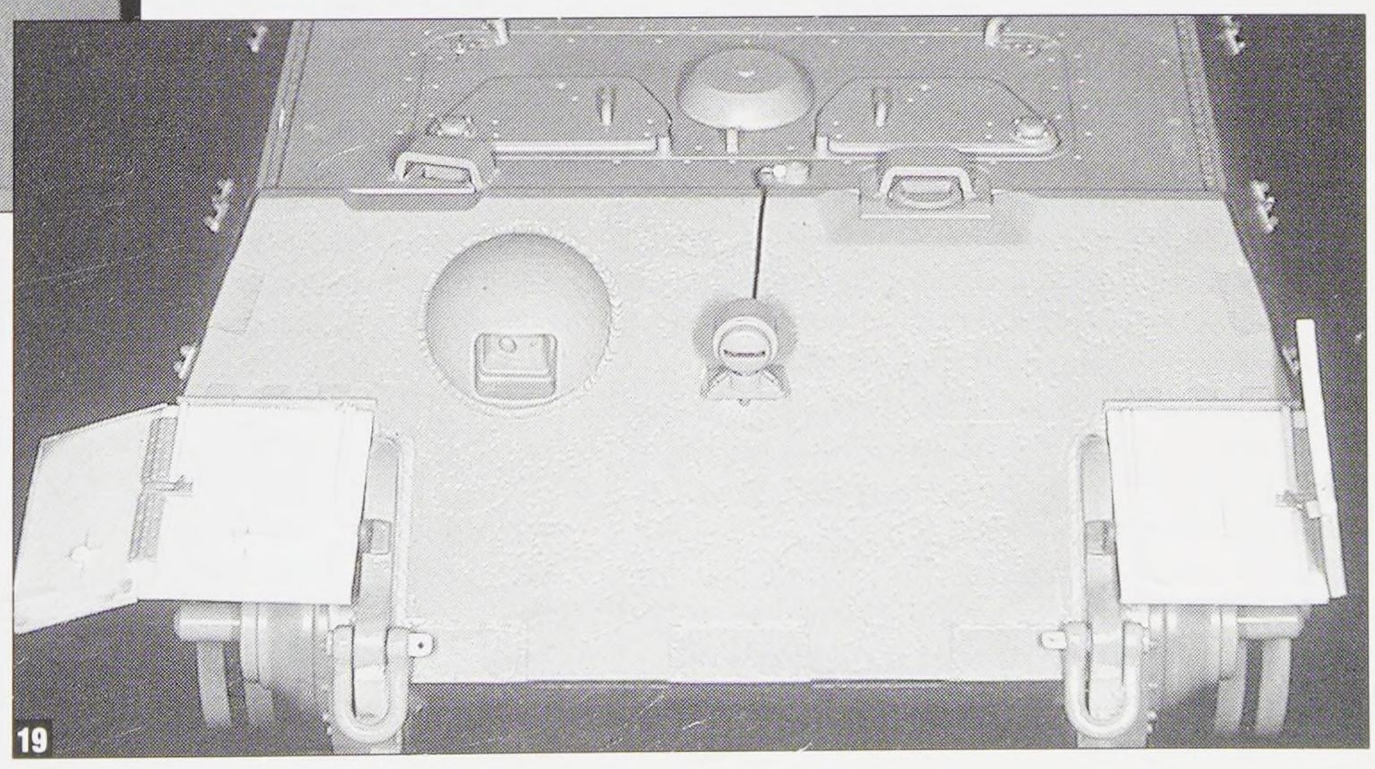






Finishing up

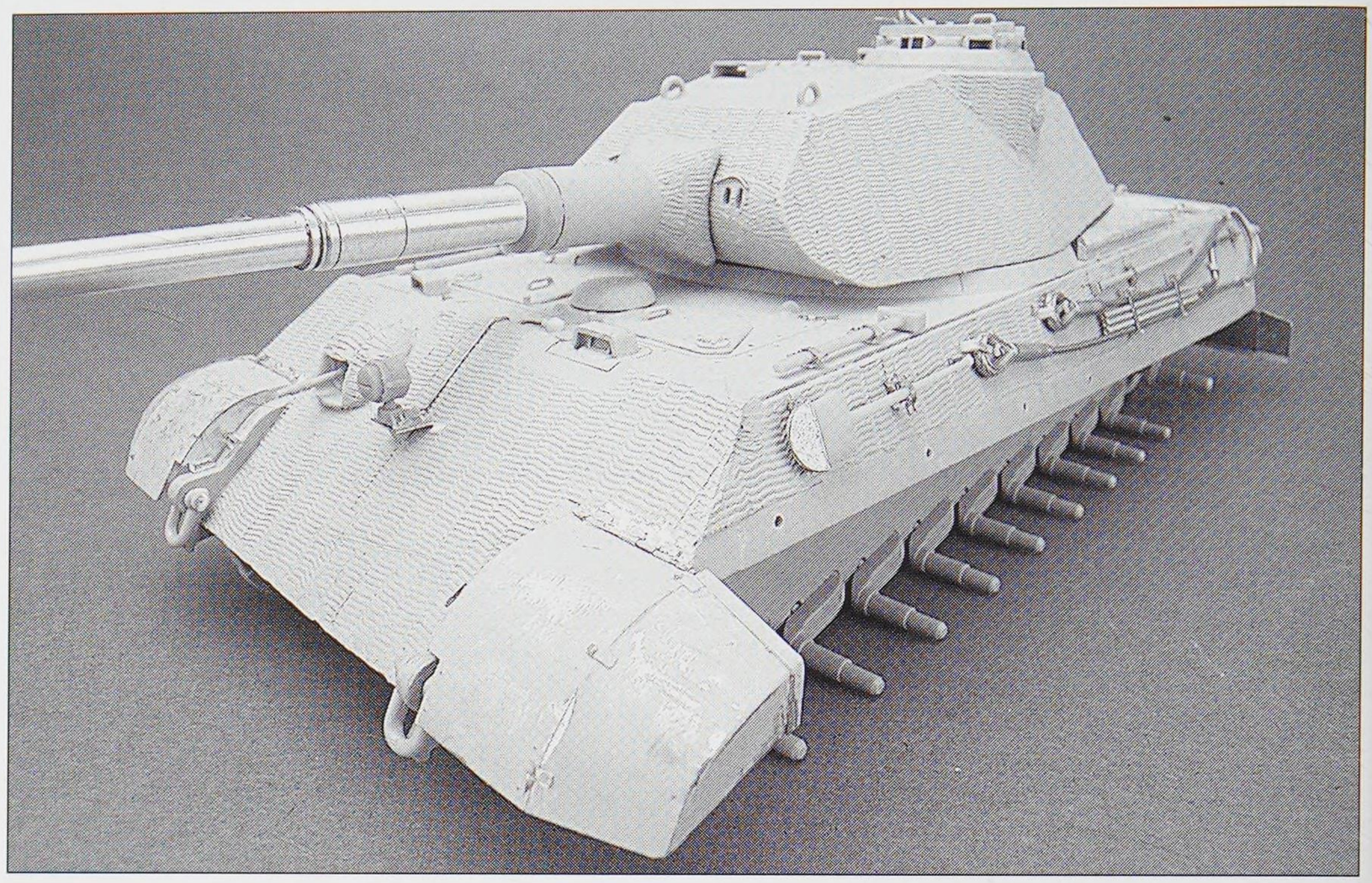
I placed the sprockets on and glued all the roadwheels to the model, but left the idler wheels off. By cutting the tab off the idler wheel arm, I was able to position it as needed when matching up the tracks. I assembled each track as three sections; a top run, a bottom run and a section around the idler wheel. I used pinstriping tape to keep the track links together until everything dried. I then painted and weathered the tracks. After all painting was complete, I added Fine Molds periscopes to the commander's cupola and hull.

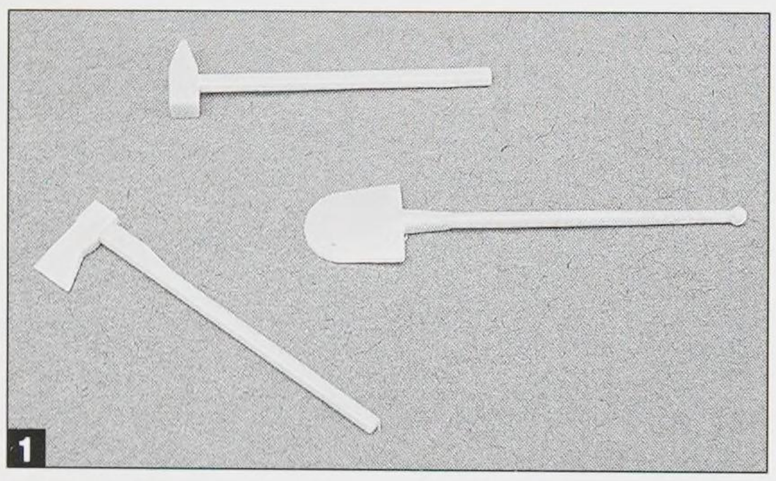


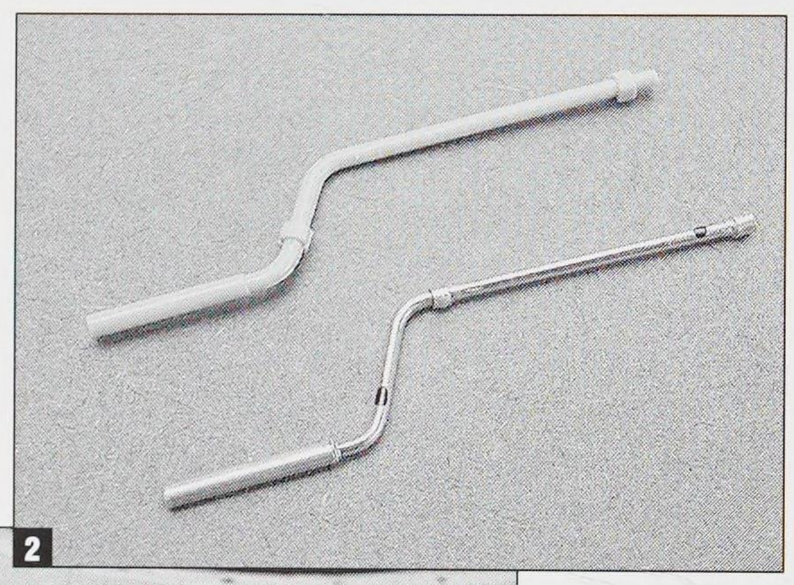
Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. 280047

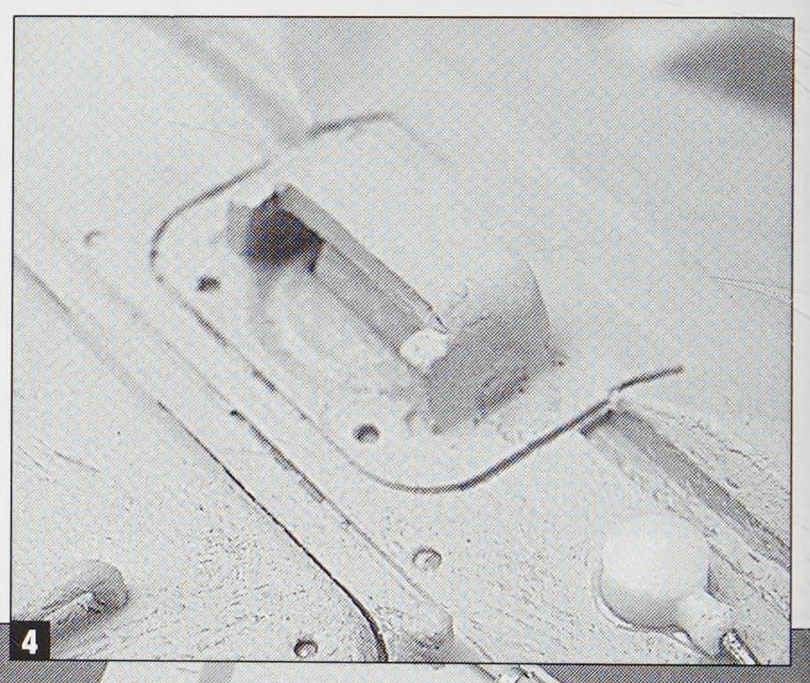
Ahhh... it's great to be here in Tiger II-land, isn't it? I'd like to embellish a few of Fish's comments regarding the Tamiya Tiger II kits. Tom Jentz has made a career out of telling us what we really should know about the Tiger II. One of his major sticking points is the distinction between the earlier and later turret designs. We have come to know these two designs as the "Porsche" (the early one) and "Henschel" (the later one). Modelers have been using these terms for years, but Tom says they're a no-no. The Porsche turret was actually built by Krupp, so that description is only slightly askew. Henschel built all the Tiger II's, so that moniker is just redundant. In his writings, Jentz sort of gives in to the Porsche description (the turret was built for the Porsche design after all), but he offers up "Serien Turm" (series turret) for what we used to call Henschel. All this presents a bit of a problem for me, because Tamiya has used the "old" descriptions and I'm not writing this explanation every time I mention them! So bear with me (Tom), I'll be mixing it up a bit.

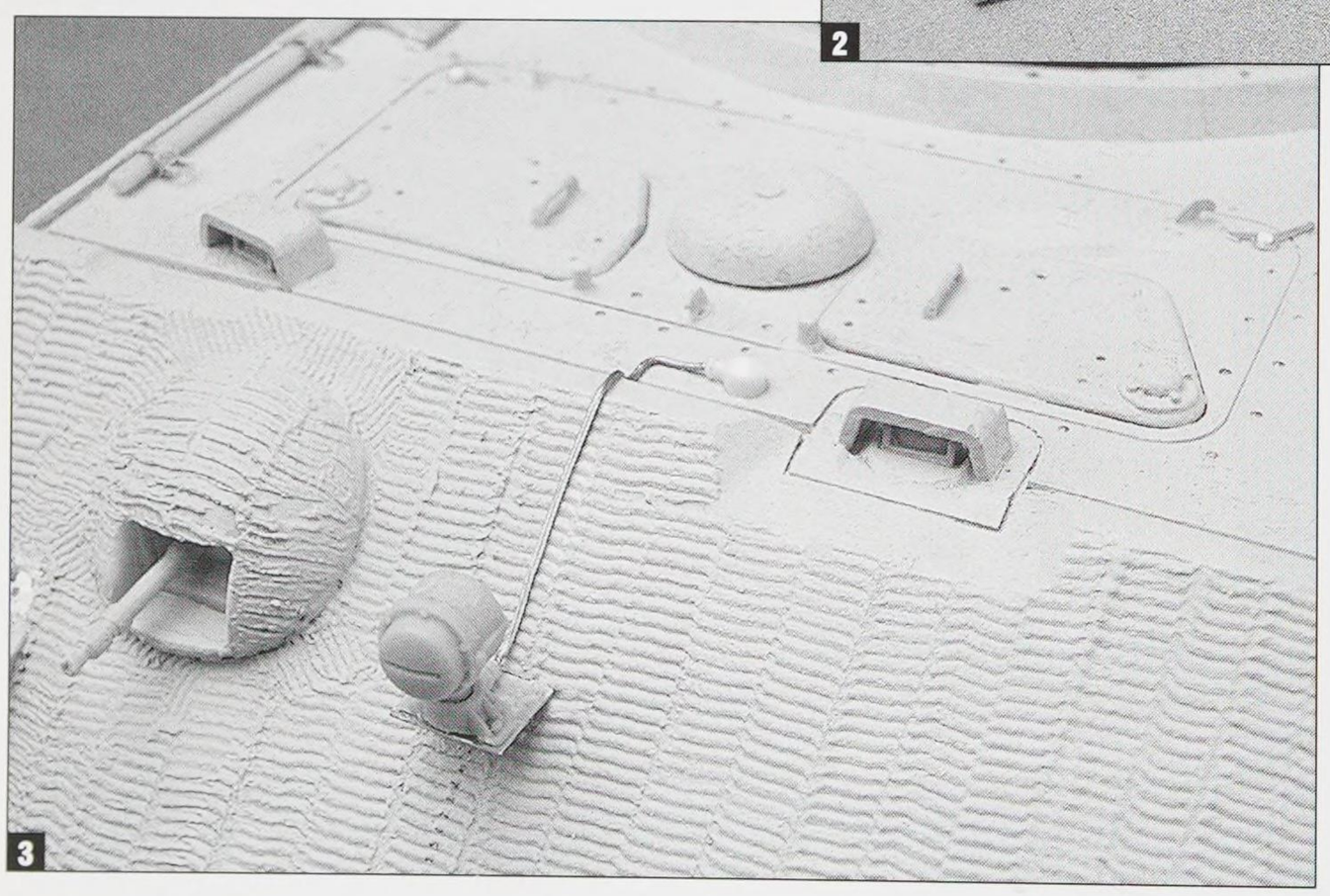
The Tamiya products are, of course, all new kits.

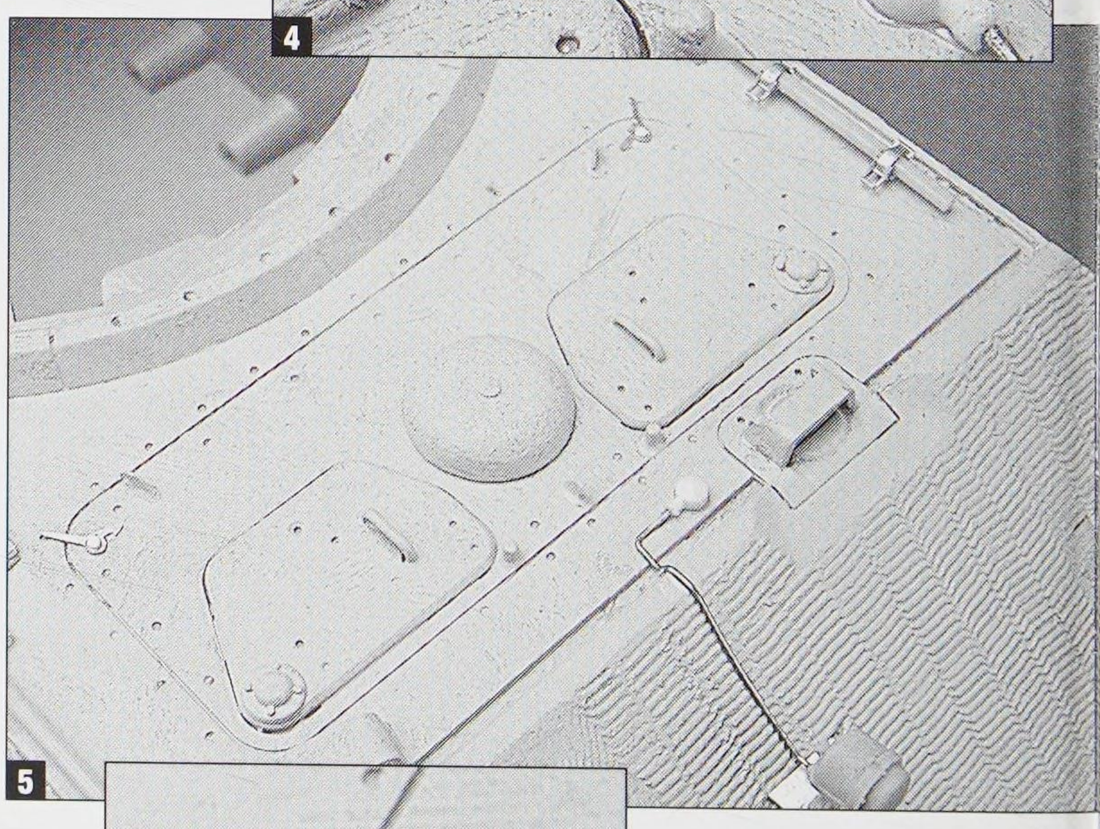


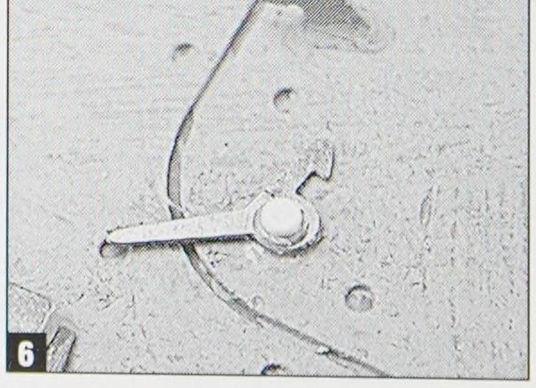












However, they represent a substantial advance in tooling, even though they only followed the original late Tiger I by four years or so. Everything is just better. Most of the detail is better rendered, the kits are more accurate and they build a bit easier.

The Henschel series turret was actually first, released as 35164. It was followed fairly quickly by the Porsche version, released has 35169. This is the subject of this build.

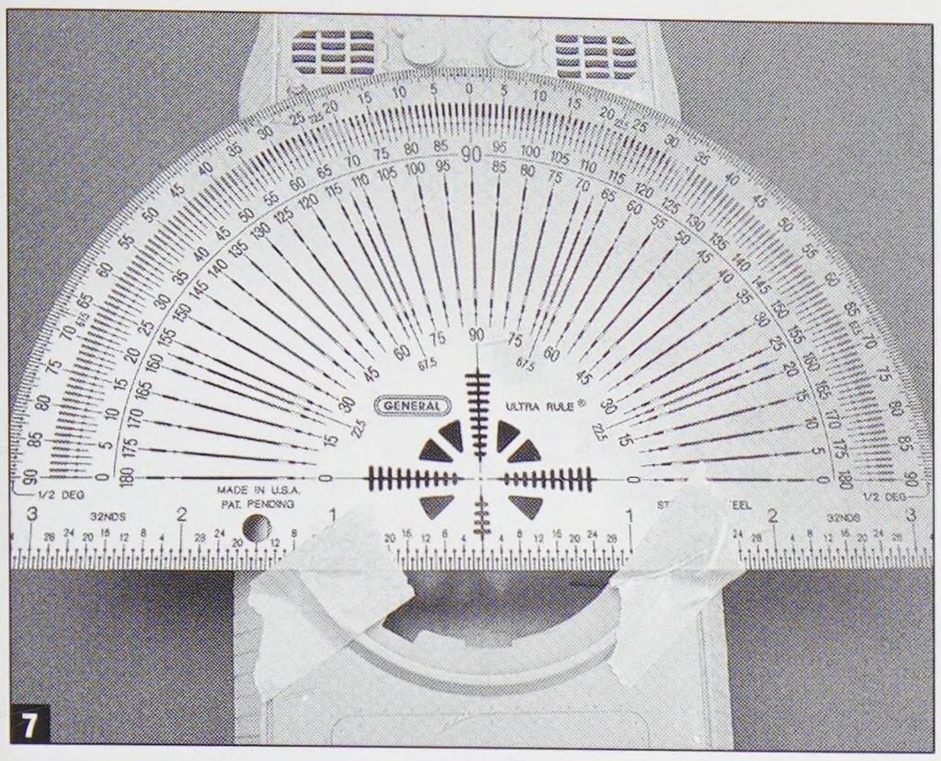
Right out of the box, this kit represents a June 1944 production vehicle, produced sometime before chassis number 280047, when the original supply of the Porsche turrets ran out. As I mentioned, the kit is more accurate than the Tiger I, but there are still a few things to fix. I'll address these as they come up. Also, like the last three Tiger I kits, I have spread out multiple tasks through the next three sections.

Get your motor runnin'

I was fortunate enough to obtain several of the tool sprues that are included in the new AFV Club 10.5cm Howitzer kit. These contain three purely naked tools, an ax, sledgehammer and a shovel (**photo 1**). These were used in conjunction with the newer and slightly smaller Aber clasps and are seen throughout the construction photos of all three Tiger II's.

There was one tool that I completely remade. This is the starter crank that is mounted on the left side of the hull. The kit part is really not worth saving, so I formed a new one from brass rod and tube (**photo 2**).

This was the last model in the book to receive Zimmerit (hooray!), but I felt that the various curves of the Porsche turret were not well served by the Cavalier set. I went ahead and applied my



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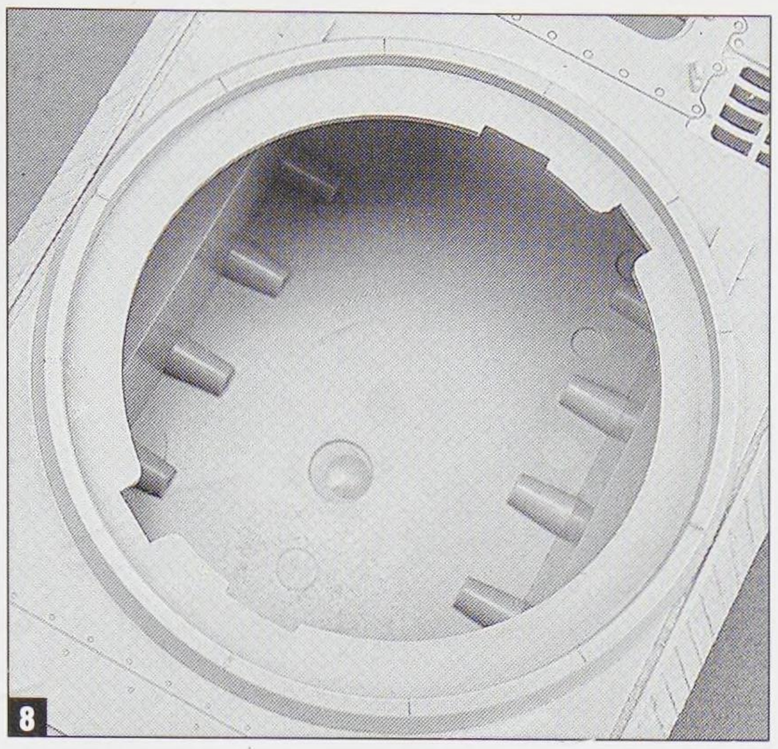
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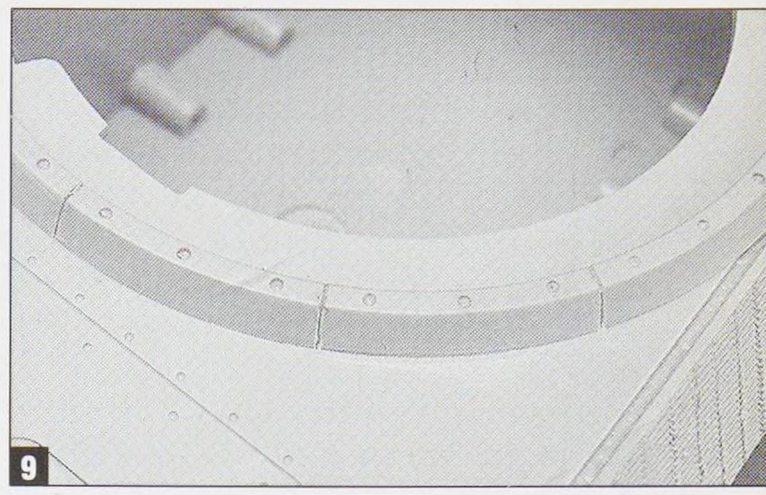
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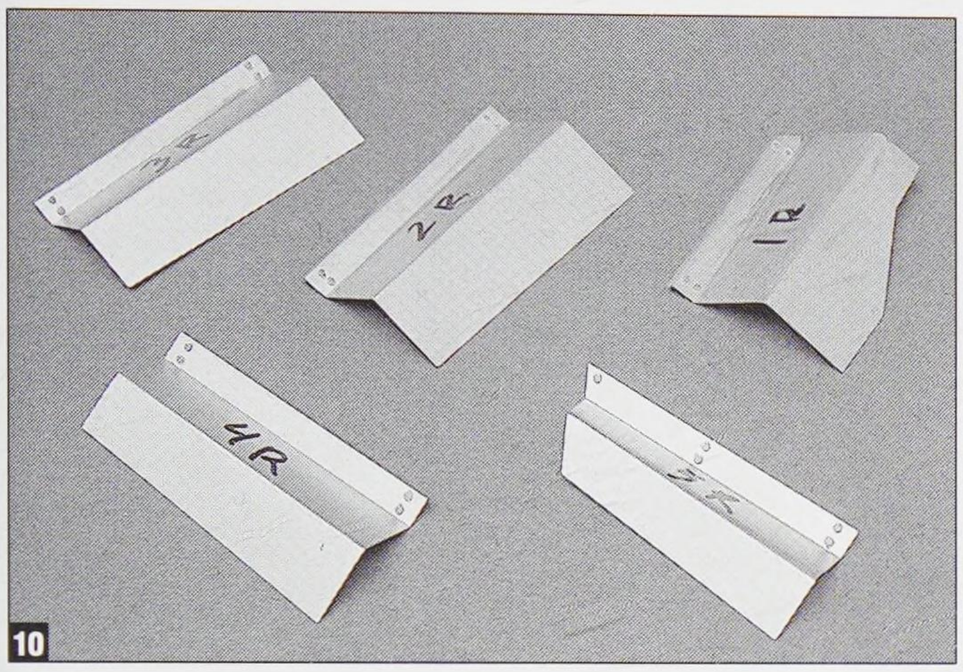
photo 5. In this shot I have installed the lifting hooks around the edge of the transmission access hatch, as well. These are found in both the Royal and the Aber sets. There are also two latches installed on this hatch and I added these from the Aber set, along with my own plastic disks (**photo 6**).

Due to the raised design of the Porsche turret, the early Tiger II had a large segmented turret ring guard. This is much bigger and more elaborate than the one installed on the Tiger I. It is provided as a solid part in the Tamiya kit, but since it is visible, I wanted to create the segments.

This finally gave me a chance to buy that cool protractor I'd been staring at in my local hobby shop. This is made by General and is called the Ultra Rule. What's great about this tool, is that you can mark right



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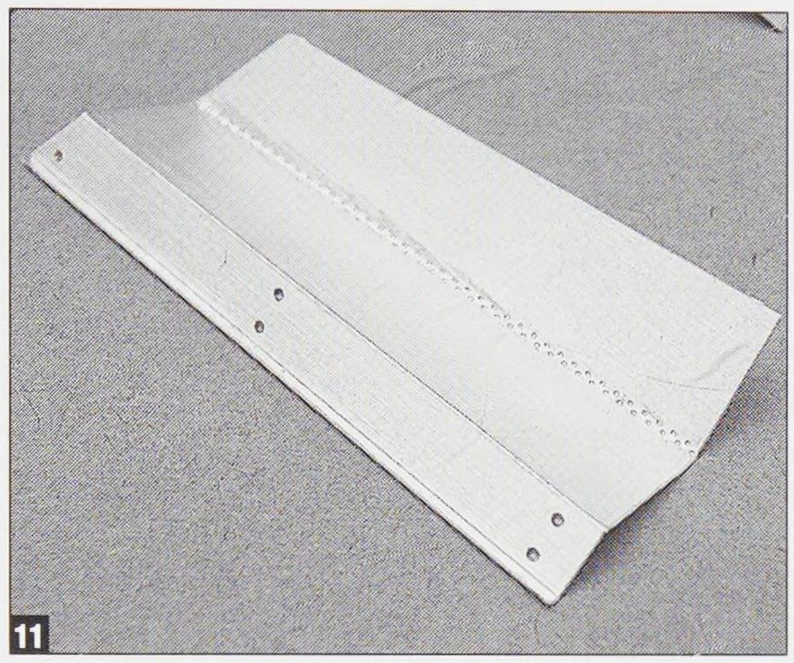
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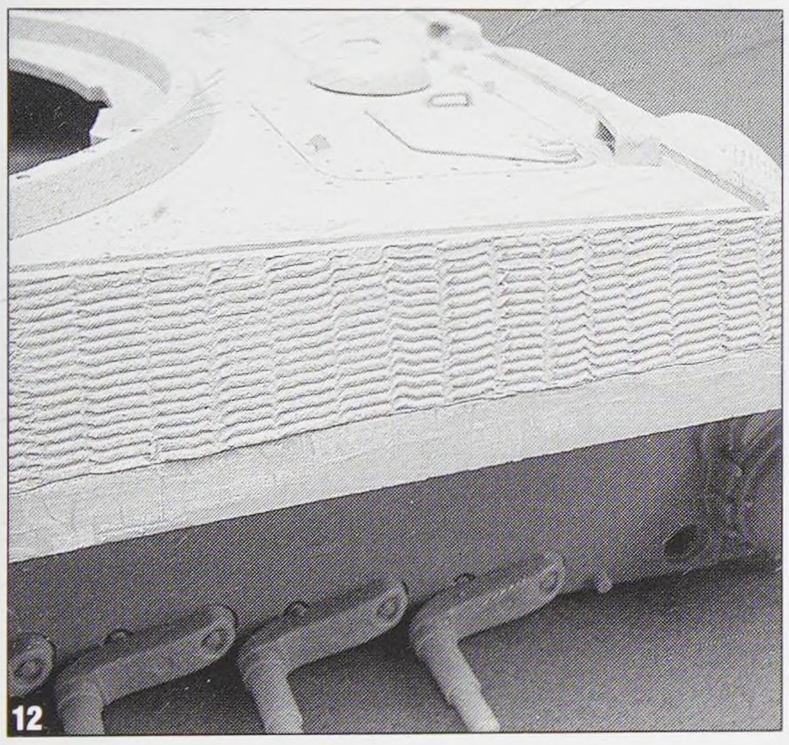
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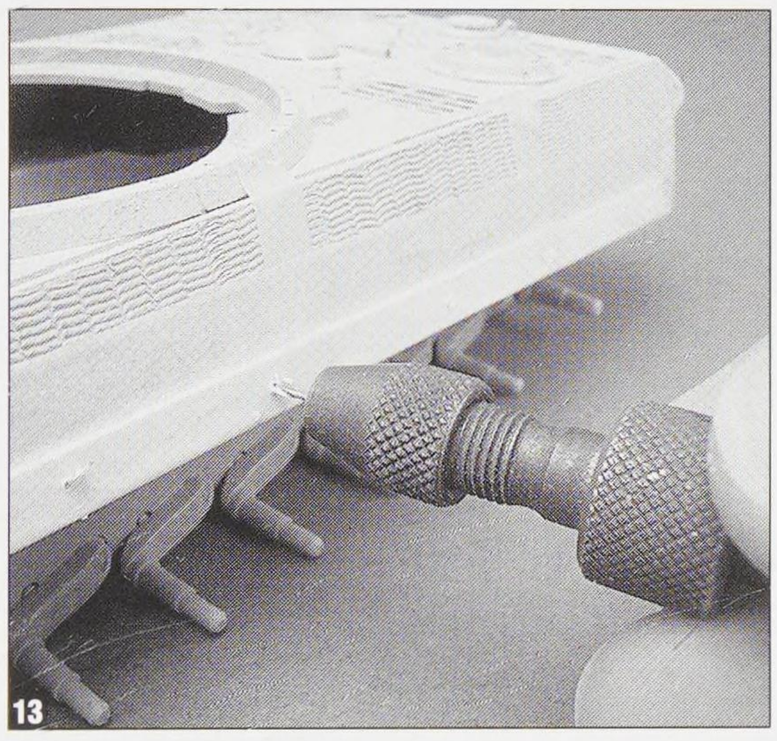
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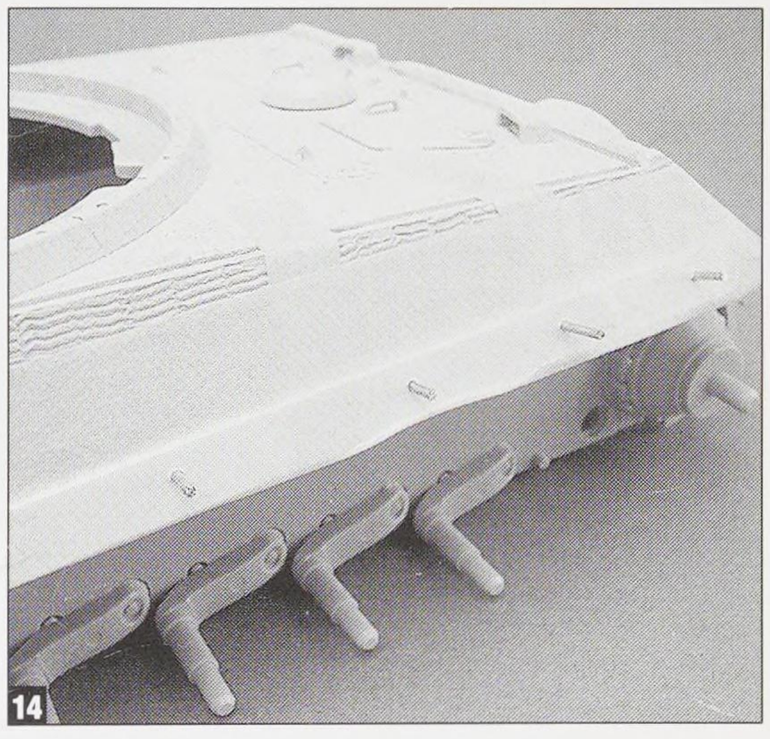
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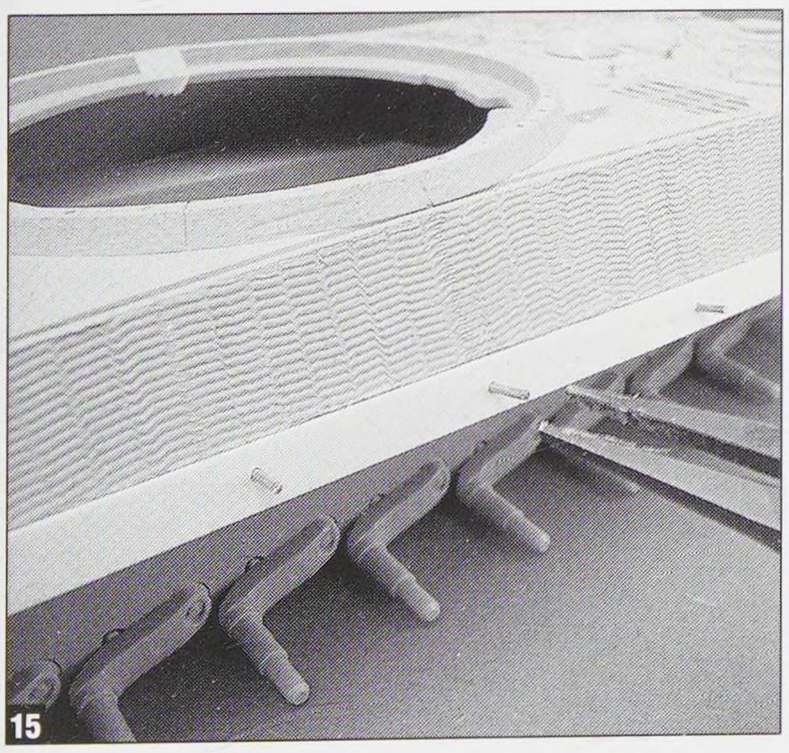
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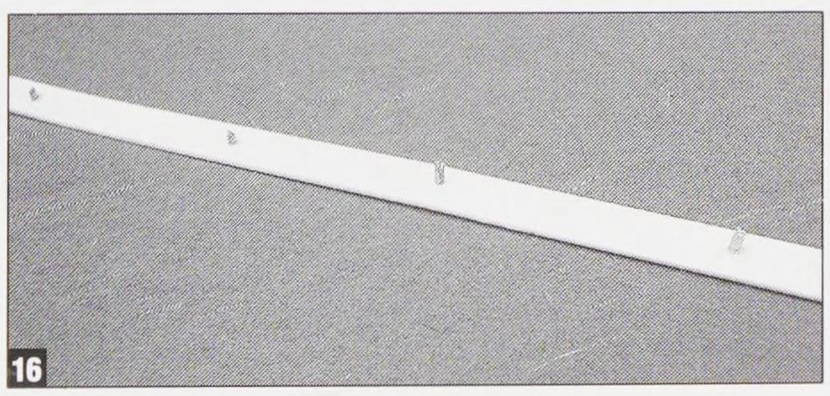
own coating using Tamiya Polyester Putty as described in the color section. This can be seen on the front glacis plate in **photo 3**. Also seen in this shot is the Bosch headlight and mount that is included in the newer Royal detail set for the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Tamiya Porsche turret kit. This set was also used on the following models and I'll be mentioning it a lot.

Many of the distinctions of the early hull are very subtle. One of these is the notching of the driver's periscope guard. This was done to allow the turret to clear the guard when it was traversed to the rear. This is a quick fix with a file and can be seen in **photo 4**. This shot also shows my hull texturing method, using Gunze Mr. Surfacer 500. A full explanation of this method is in the color section, but I also used this same product to prime the Zimmerit and give everything a uniform surface.

This is seen from a slightly better vantage in

through it. All the measured marks are actually small slots. There is a good shot of it in photo 7.

Fortunately, the ring guard measures exactly seven centimeters across. This made it easy to determine its center mark. Once this was determined on both axis, the tool was aligned on three of the marks (**photo 7**). There is an excellent photo of a knocked-out Porsche turret Tiger II in the Jentz book that clearly shows the number of segments. These were carefully marked out in pencil on the part in 30-degree increments (**photo 8**).

I was having so much fun with the tool that I decided to also mark out the positions of the recessed steel rods that hold on the guard. These were marked out every 10-degrees and then dimpled with a drill bit (**photo 9**). These can't really be seen on the finished model, but I'm hoping my friends will think I'm cooler because I added them...

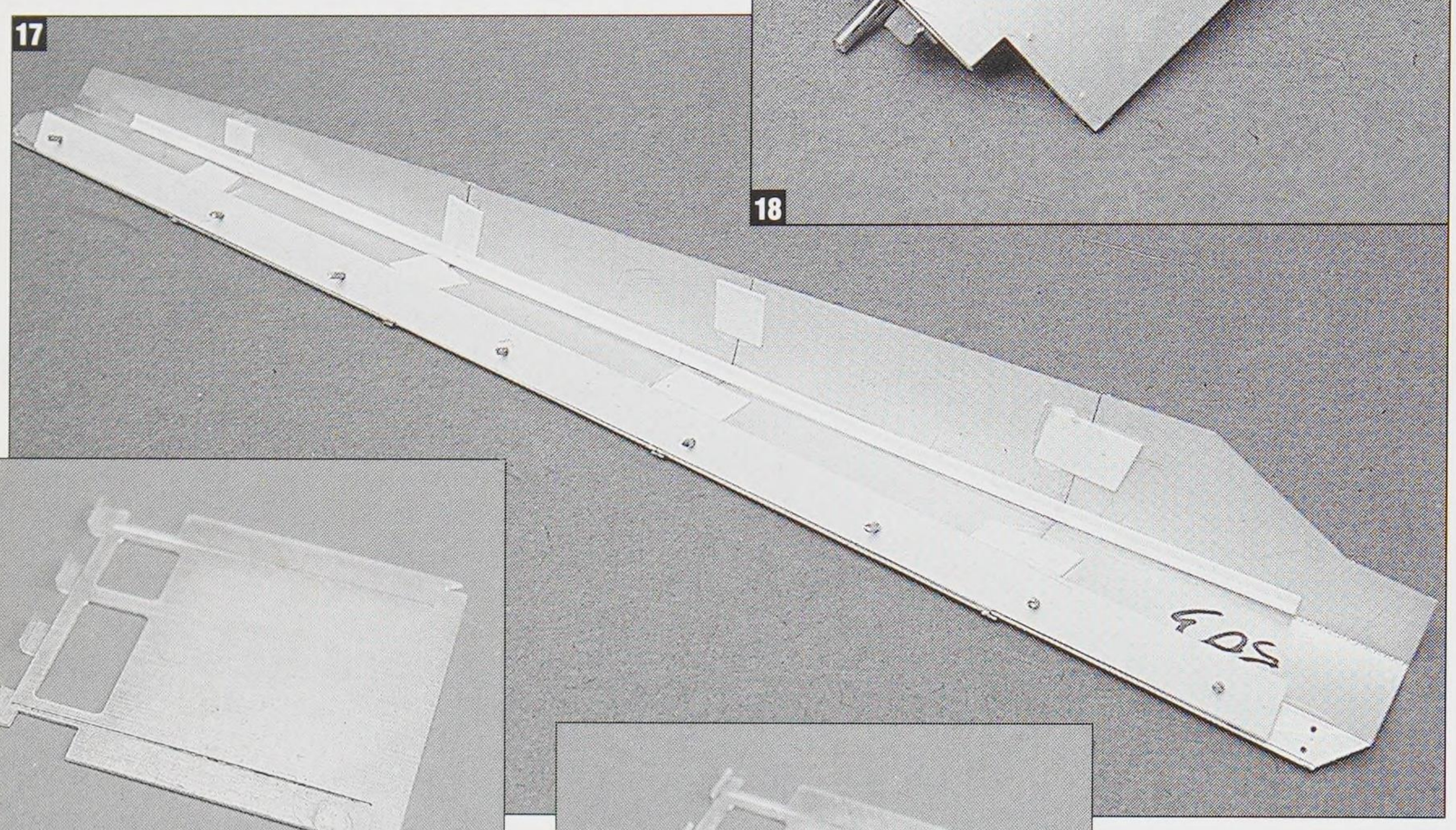
Fend(er) for yourself

Aber makes a complete set of brass fenders for the Tiger II and they are suitable for either version of the kit. I was a bit stumped at first on how to deal

with these parts. You see, the fenders must be removed for painting and as provided, the Aber set is broken down into individual panels. Hmmm...

While I was pondering that issue, I went ahead and formed the fenders using a bending tool. I added the appropriately sized Grandt Line nuts to each panel. I also numbered the panels, to avoid mixing them up and because I'm not actually all that bright.

There appear to be two designs on the real Tiger II. There are those panels with single holes for ↓



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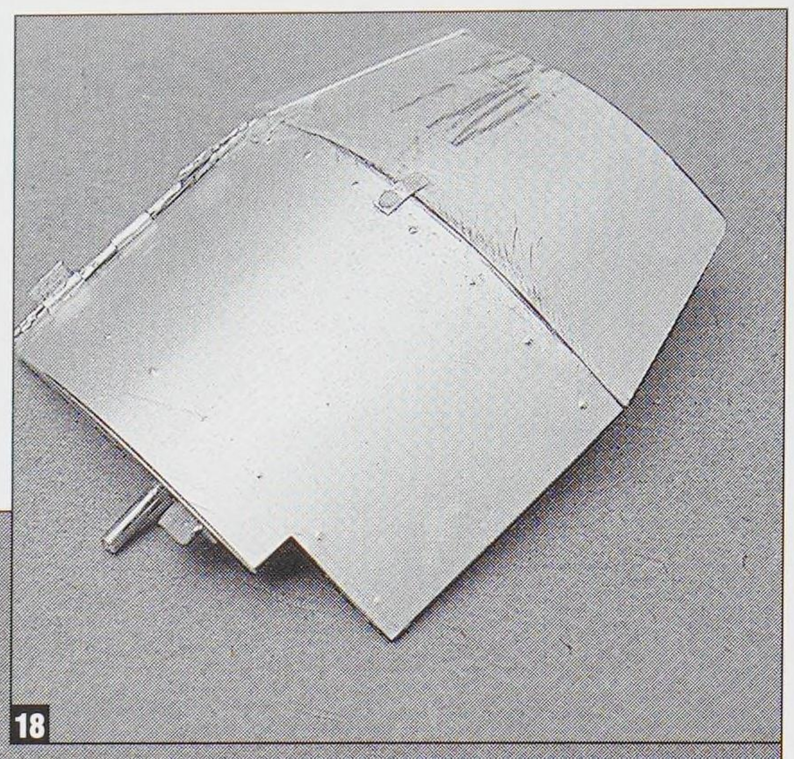
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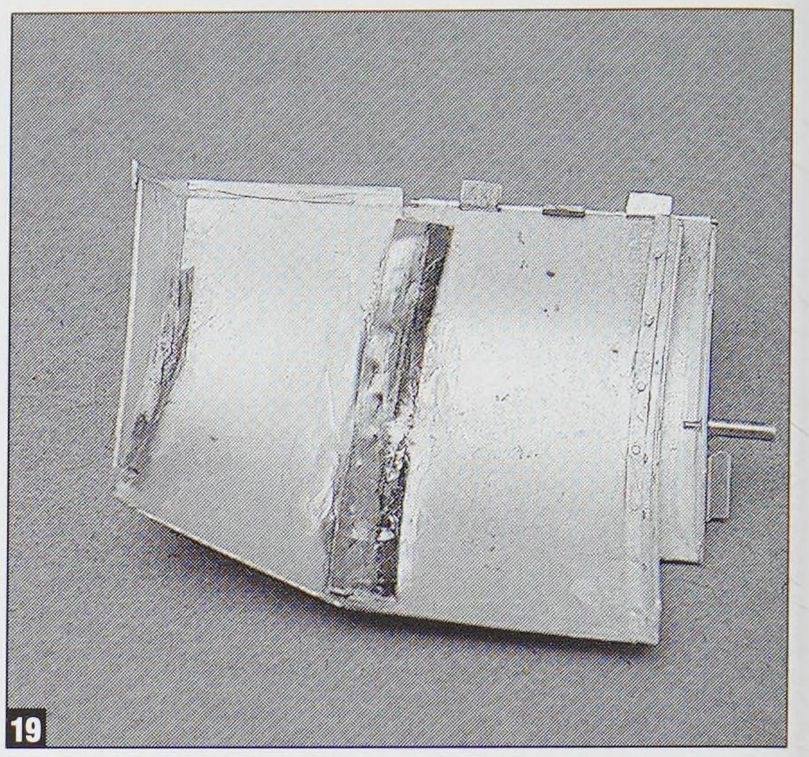
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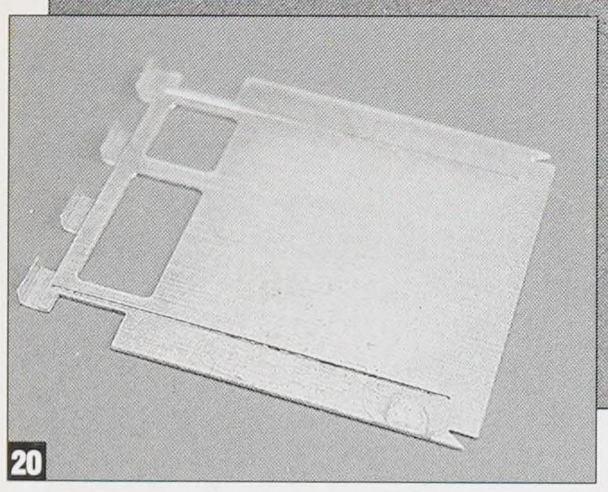
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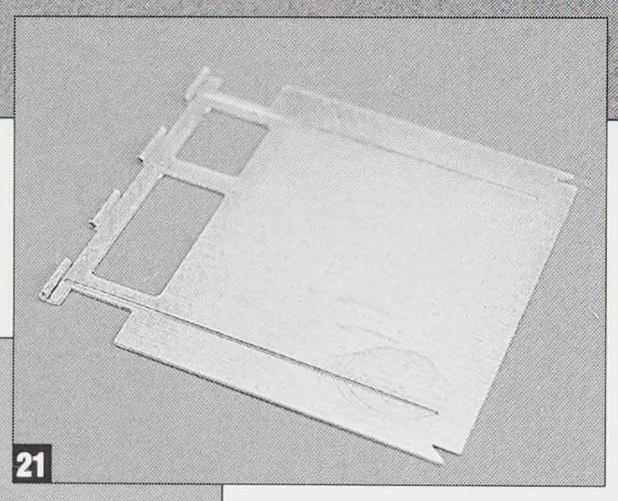
the attachment bolts to pass through and those that have a merged, double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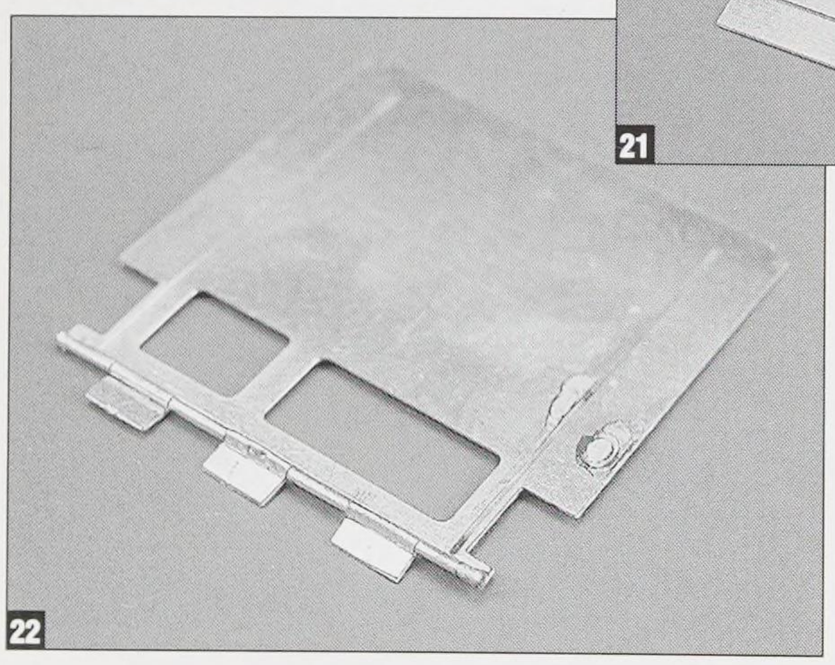
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hole design that allows the panels to be slipped over bolts already installed in their brackets. At first, I thought that only one design was correct, but I have ↑

now seen wartime photos of both. Some of the assembled panels can been seen laid out in **photo 10**. **Photo 11** provides a closer perspective of the back of one. I thought the double line of indentations was a clever way to design the bend.

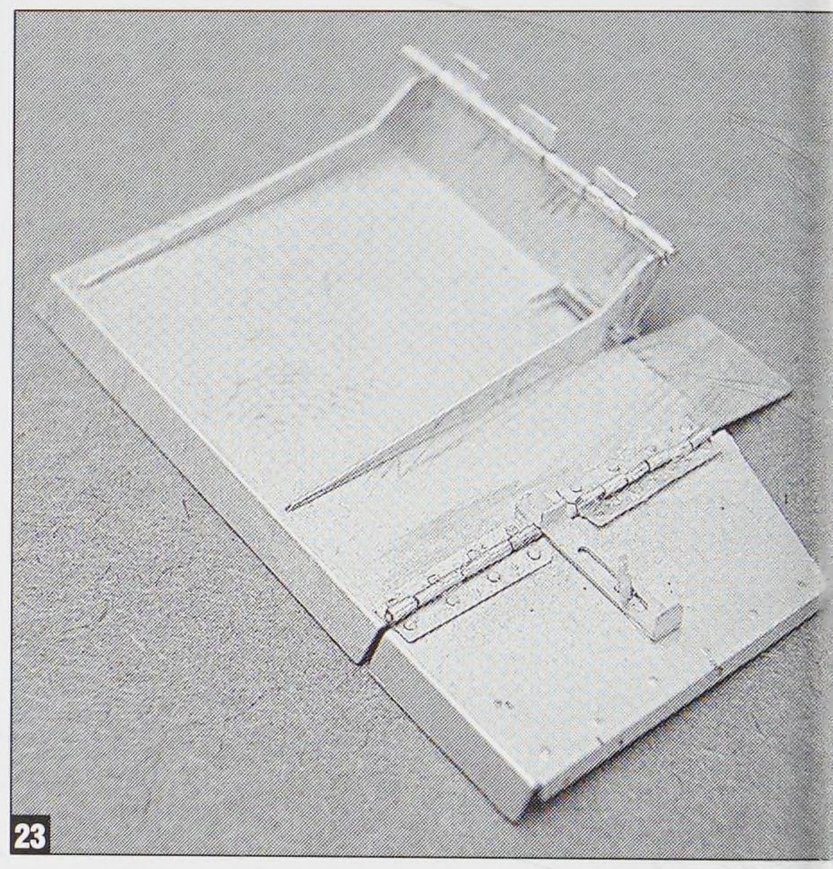
After many intense hours of deep, profound thought and some minor scratching and nose picking, I finally hit on a way to install the fenders and still have access for painting. My idea was to install the panels onto a removable plastic strip and here's how I did it.

First, it was necessary to establish a line where the fenders meet the hull. This was fairly easy; I just used the top of the molded on brackets on the Tamiya hull. After removing the brackets, I transferred this measurement back to the hull. This also meant scraping off the Zimmerit applied below this line as seen in **photo 12**.

Next, I taped a length of plastic strip to the hull using Tamiya masking tape. It's critical that the strip stays on its mark, so not only did I use vertical pieces of tape, I also placed a wider piece right down the length of the plastic strip. I ↑

then drilled several holes right through the tape, along the length of the plastic (**photo 13**). By the way, has anyone seen my nail clipper?

Once this was done, I inserted lengths of brass rod into the holes, making sure they went in a fair distance with a substantial part still protruding (**photo 14**).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At this point, they're in there good and tight, so it was possible to pull off the tape and have the rods remain. I then carefully placed a small drop of superglue at the base of each rod—just enough to bind it to the plastic and not run underneath. Using

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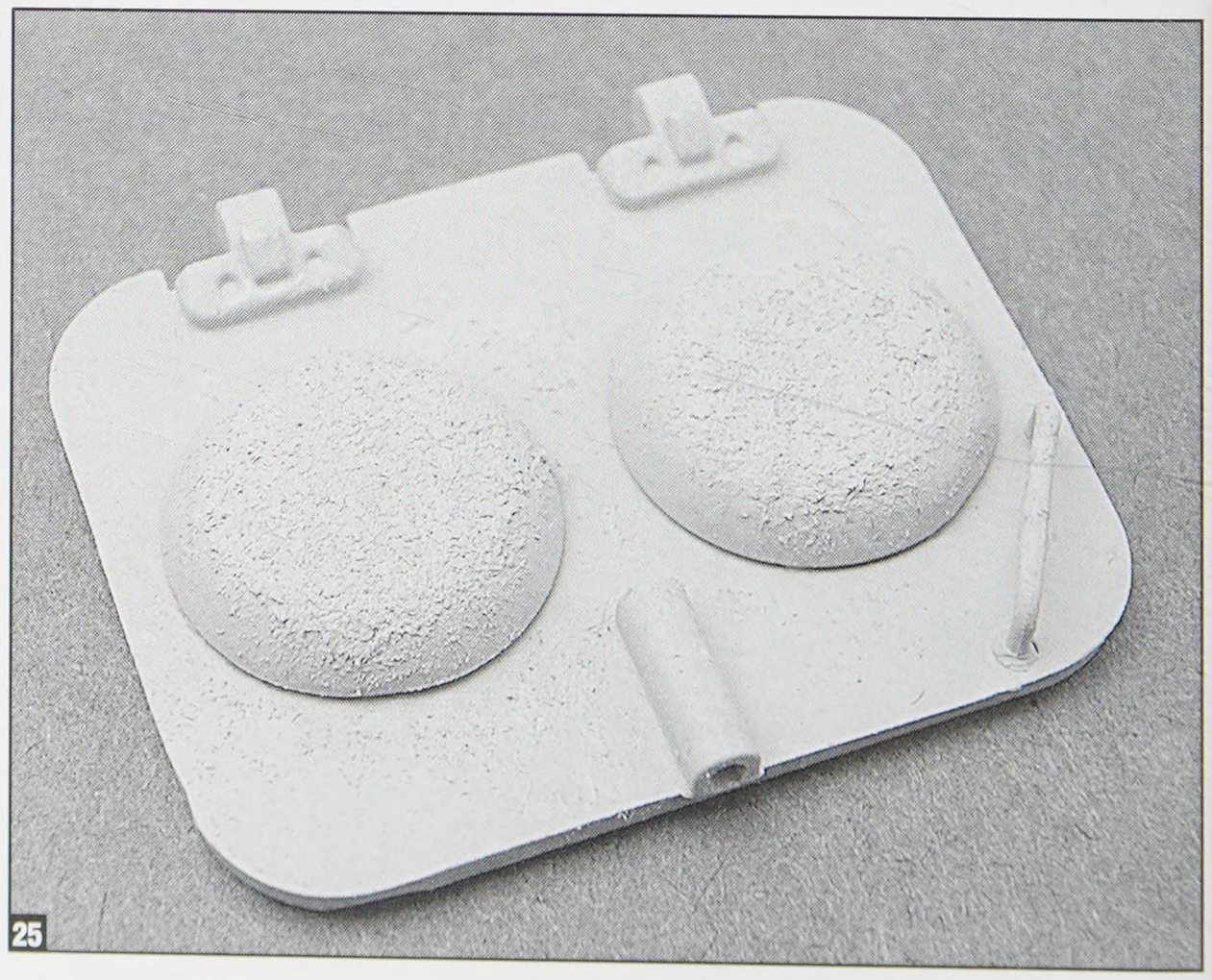
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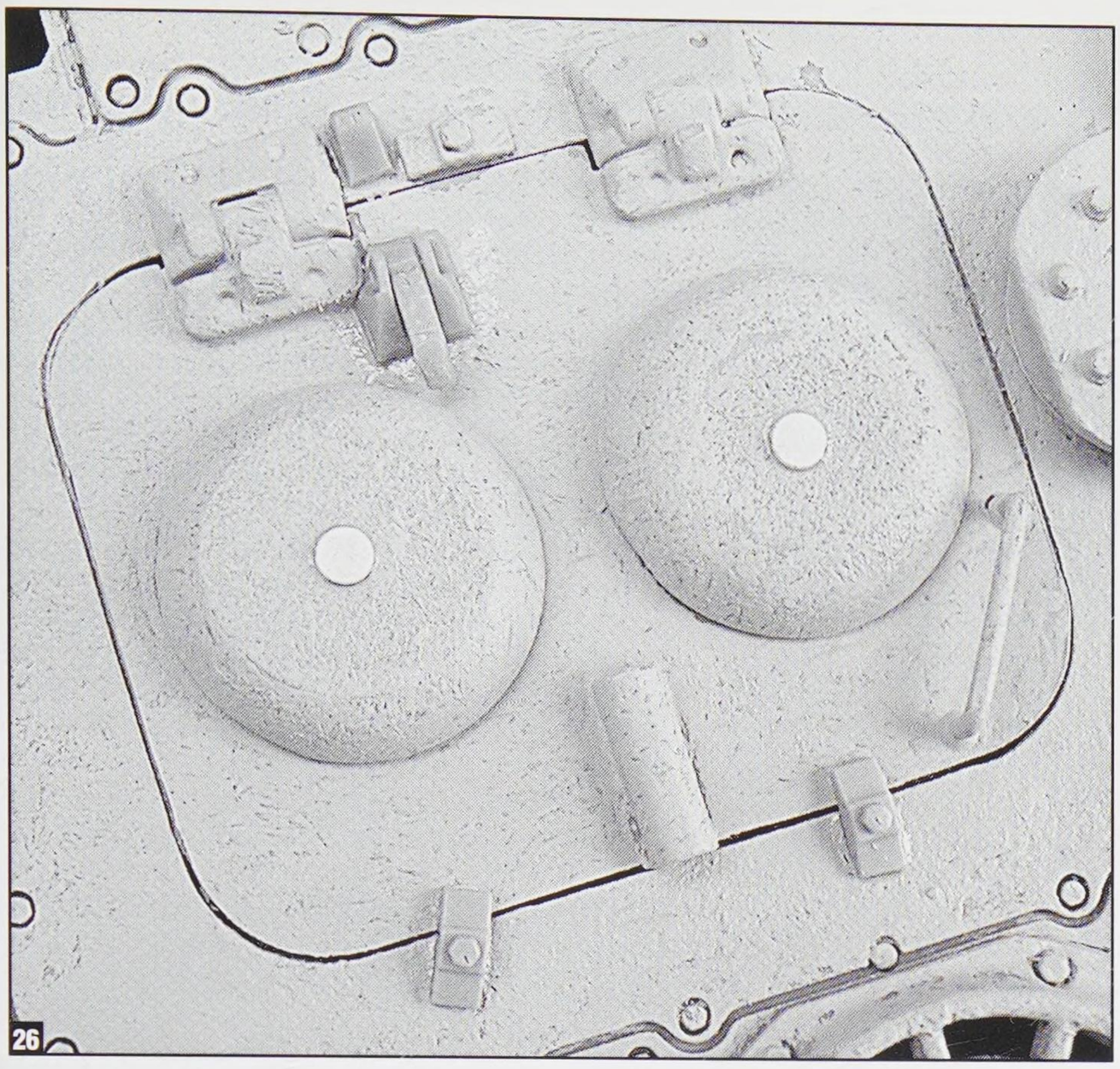
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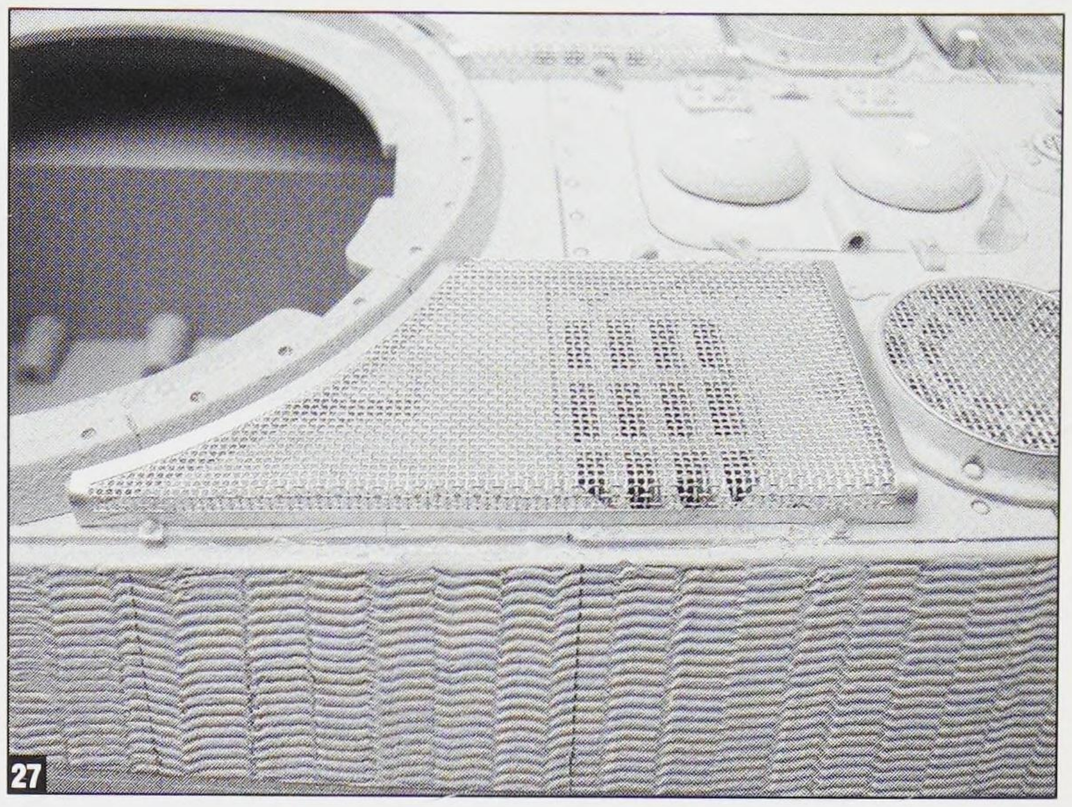
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completed fender. They are a ton of work, but you can't beat the way they look when they are done. ↗

Going to hull in a hand basket

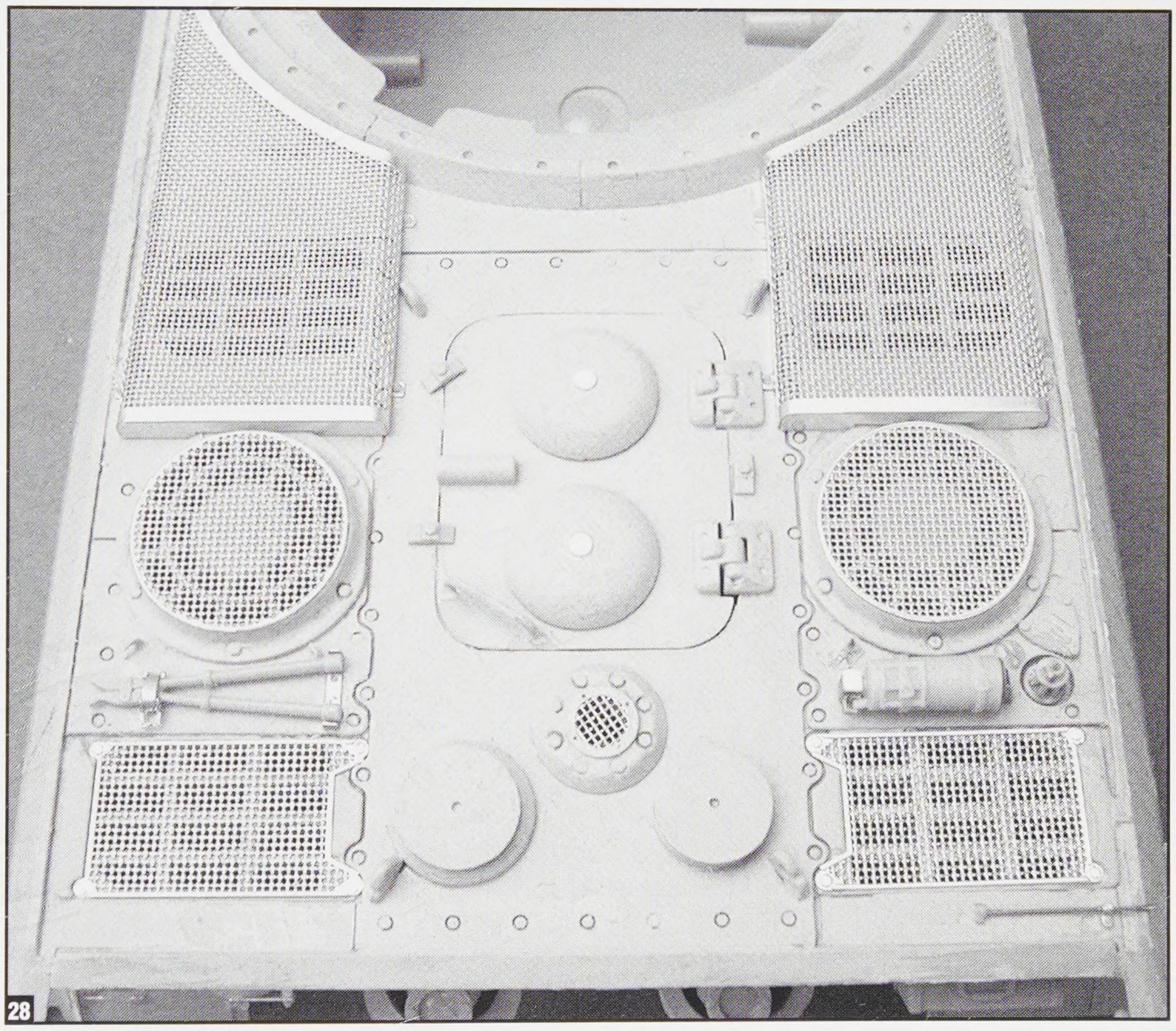
Many of the detailing opportunities presented by the Tamiya kit are on the rear hull. One deficiency on all the Tiger II kits is the front vent on the engine access hatch. This vent has a flattened profile when compared to the other one on the hatch. This was to help it clear the turret. It's pretty easy to fix with a file and a sanding stick. A comparison

a pair of needle-nosed pliers, I carefully worked off the strip by pulling on the rods (**photo 15**). Once the strip was off, I was able to add more small droplets of glue to the rods. They were then trimmed flush on the outer edge and down to just a nub on the inside edge (**photo 16**). The holes in the hull were also enlarged slightly with a knife point to ensure the rods would not bind on the way in and out.

From here, it was a matter of remounting the strip and mounting the individual sections on it. Once it's all together, it becomes quite strong. Adding the outside lips also strengthened the assembly, and I took this one step further by adding small sections of styrene and plastic to the underside (**photo 17**).

I should say that it is very important to mount the front fenders first, in order to gauge the proper relationship between them and the side panels. These front fenders are impressive little assemblies. Using a series of parts, they can be formed into a very realistic rendition of the fender. I'm nearly finished with the left one in **photo 18**. Here, I'm in the process of adding the short strips between the outer and inner sections. **Photo 19** shows how I reinforced the backside of the assembly with superglue using lead foil and solder. All this is invisible on the completed model.

The rear fenders of the Tiger II were very similar to those used on the Tiger I. It's Aber again, with more amazingly engineered parts. **Photos 20-23** illustrate the forming of the hinges and then the ↑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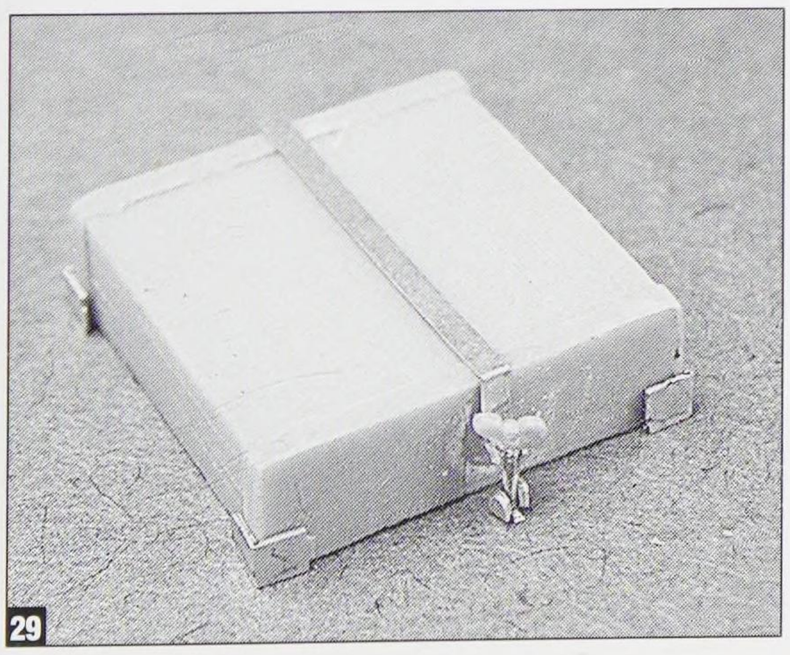
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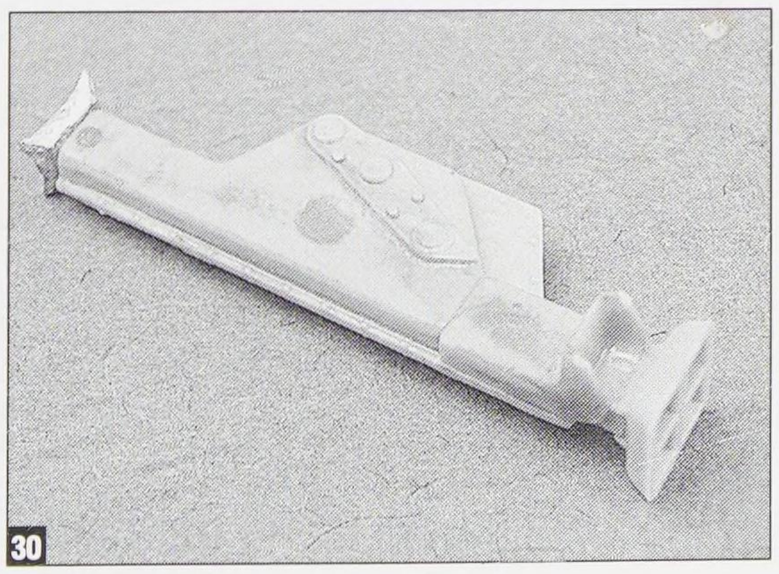
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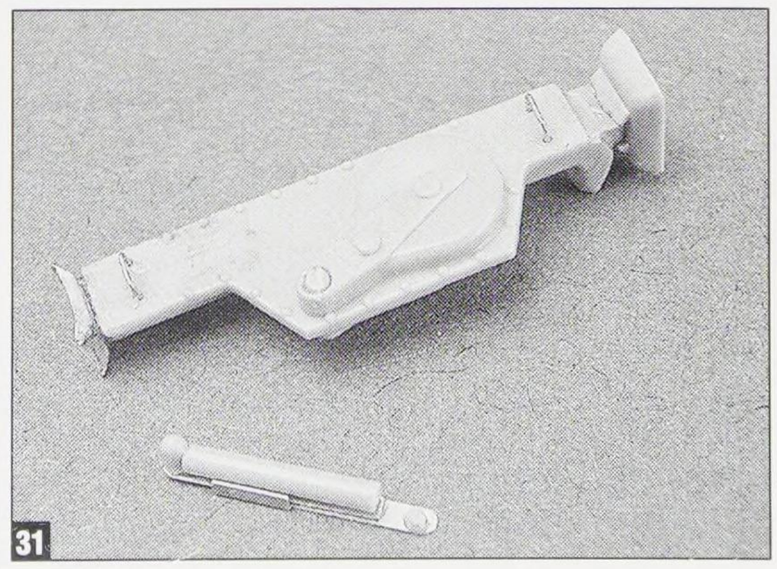
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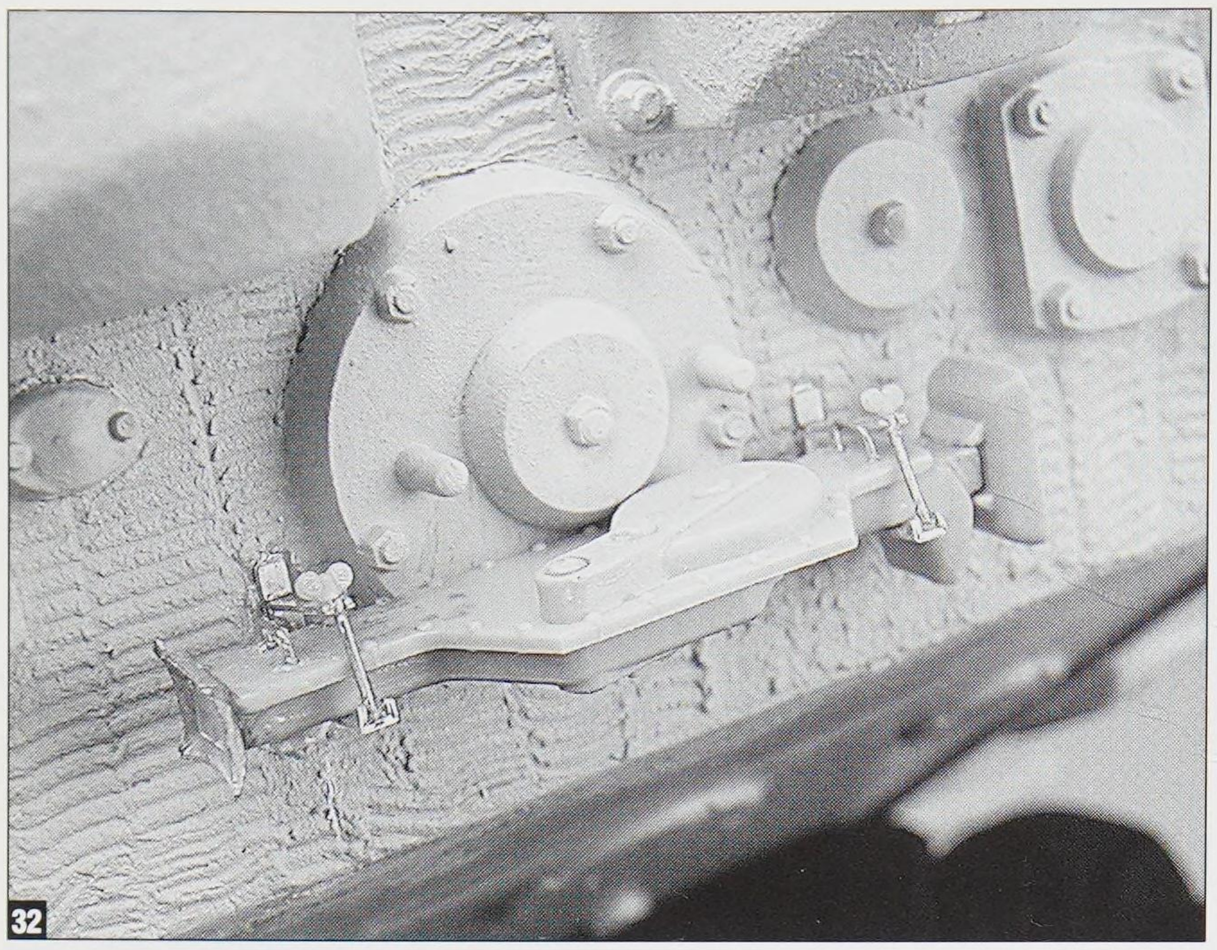
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can be seen in **photo 24**. You'll also notice in this shot that the tube on the right side of the hatch has been hollowed out. This tube was installed to accommodate a wrecking bar. This extra leverage would assist in opening the heavy hatch. The weight of the engine hatch would remain an issue for the Tiger's designers right up until the end of production.

The vents were cast parts and had a bit more texture than the parts around them. I used the Mr. Surfacer method here, but applied a bit more of the material to raise the surface texture as shown in **photo 25**. Once this had dried, the roughness was knocked down using a sanding stick. This results in the effect seen in **photo 26**. The center caps were remade with a punch and die, the rear one gets eliminated and I wanted them both to match. This photo is actually of the next kit and it shows one modification not inherent to the June production Tiger II, the hatch stop. This first appeared during the July 1944 production. It's very similar to the one on the Tiger I and that's where I got mine. I carefully removed the base using a chisel tipped blade and shortened the catch arm using photos as a reference (the Schiffer Jentz book). The base also needs to be notched to settle against the rear hinge. The catch is right from the Tiger I and was located across from the rest of the assembly on the deck.

Another modification seen here is the hatch lock. There are three of them around the door and Tamiya has rendered them straight. I carefully removed them and placed some over the hatch lip. These were originally designed to keep the hatch from banging up and down during cross-country travel.

The reason Aber gets the big bucks can be clearly seen in **photo 27**. These gorgeous woven mesh anti-grenade screens are part of their overall set for the Tiger II. The small attachment tabs got Grandt Line nuts. I debated whether or not to install the smaller screens on the grates underneath. The photos and plans I had were not quite clear on this. I finally decided to save them for another project.

Photo 28 shows the completed rear deck, with all the screens and tool stowage in place. Note that the hatch stop is not present here. By the way, fuel tank venting was a large issue with later production Tiger II's, but at this stage only the highest point of the system was vented. The single vent for the June production was located on the right rear hull and it can be seen here, as well.

One of the many great items contained in the Royal detailing set is the jack block. It is composed of several tiny pieces, but regrettably, it's positioned in such a way as to be mostly invisible on the finished model. For that reason, you can get a good look at it in **photo 29**.

I built new jacks for all of the Tiger I's in this book, but the jack provided in the Tiger II kits is highly redeemable. **Photos 30 & 31** show my modifications. There are a few small sinkholes to deal with on the backside, then it's just a matter of an Aber top plate, two handles and a new folding jack handle from Royal (**photo 31**).

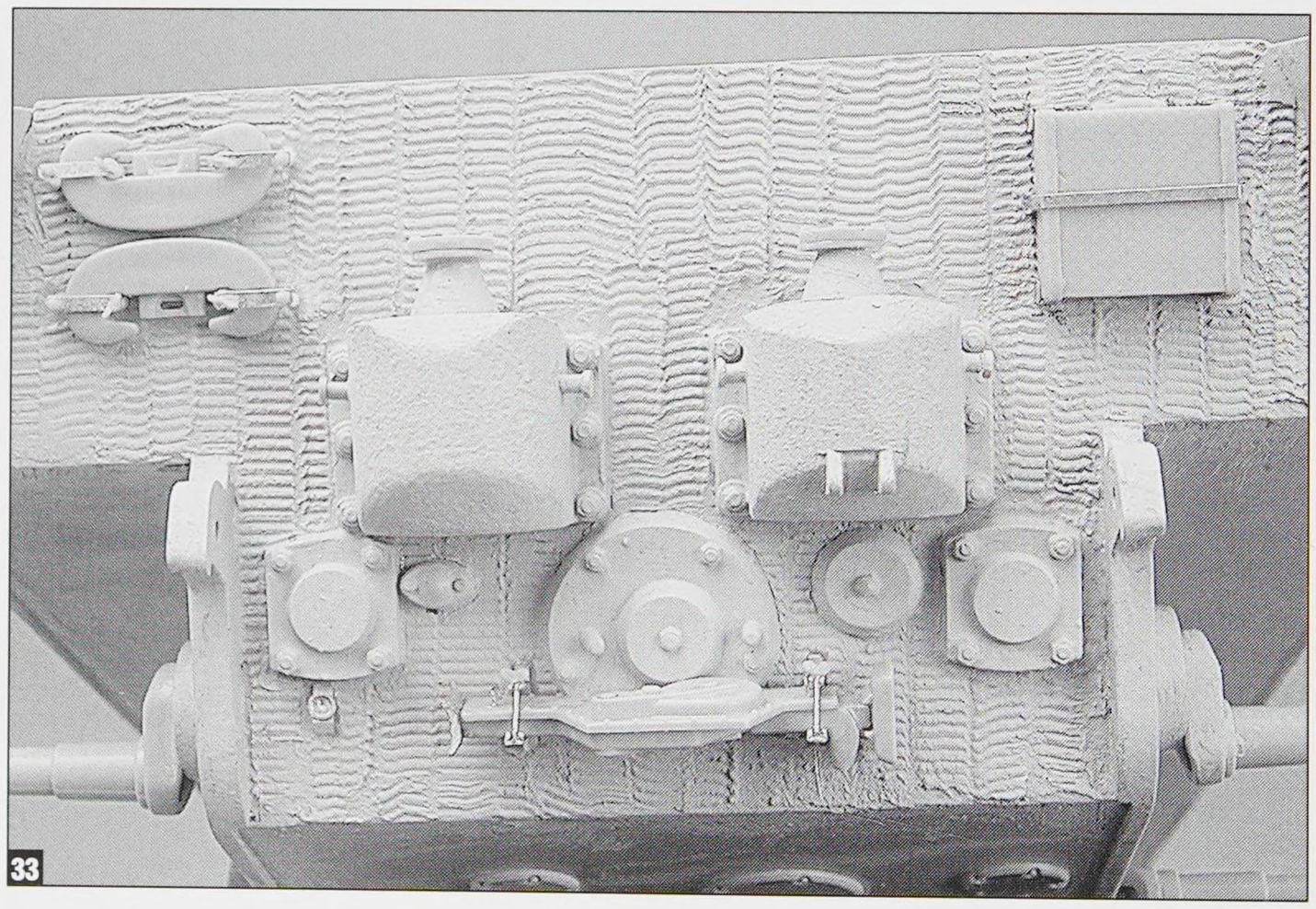
The hull jack mount is also a Royal item that I modified with brass rod and wing nuts as shown in **photo 32**.

The completed rear hull is shown in **photo 33**. Everything is in place here, the jack block, C-hooks and jack. The exhaust guards have also been textured and their missing lifting lugs installed. The exhaust pipes were left off all the Tiger II models so that they could be weathered separately.

What's this guy got against turrets?

There is an armored shield molded around the base of the commander's hatch hinge arm on all Tiger II's (and a bunch of Tiger I's, I noticed too late). Wouldn't you know it, this part is included in the Aber set. To be properly installed, it needs to be glued on and then feathered into the rest of the cupola with putty—it was actually part of the casting. This is seen installed in **photo 34** and the completed cupola is shown in **photo 35**. This last shot illustrates the installation of the rain cover sockets, the hatch stop (part of the hinge guard) and the smaller stop on the front of the cupola. Incidentally, this smaller stop was to allow the commander to keep the hatch open just a crack during combat.

One last detail that is definitely worth adding is the protruding machine gun muzzle for the co-axial turret MG in the turret. This is not included in the kit, but it's easy enough to stick a spare one in there. I've done this and added a Royal rain guard in **photo 36**.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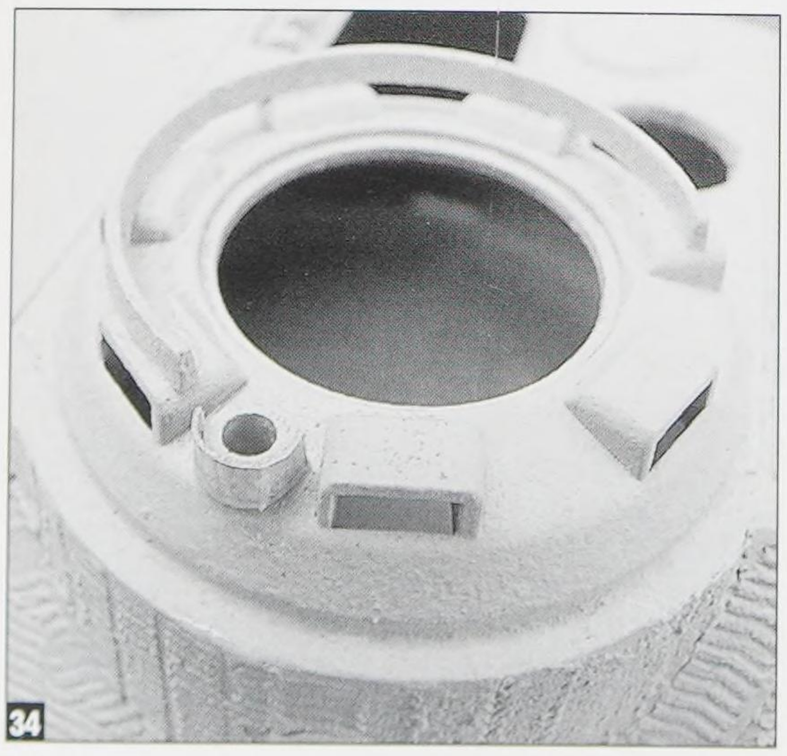
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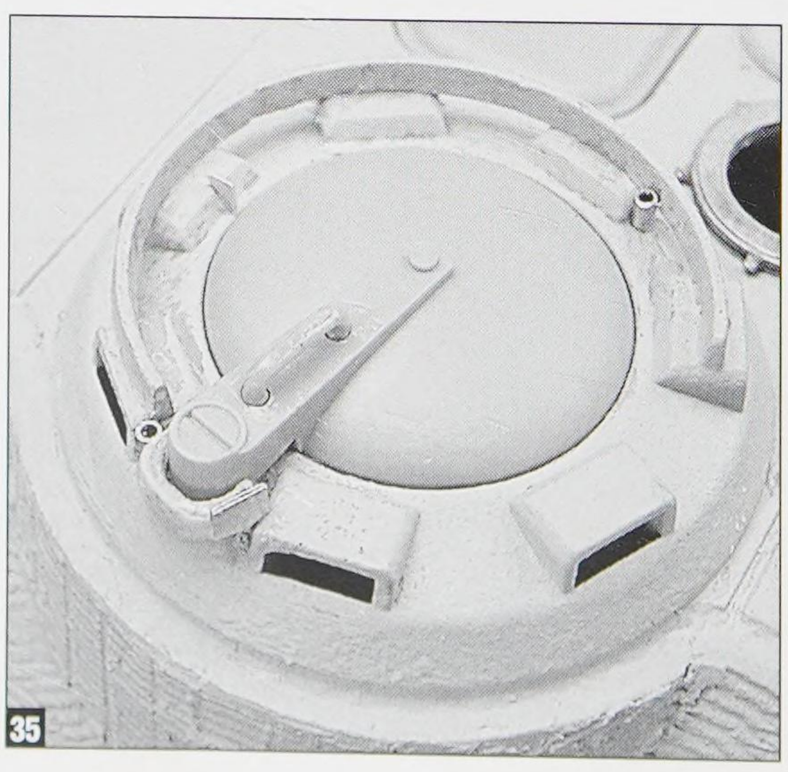
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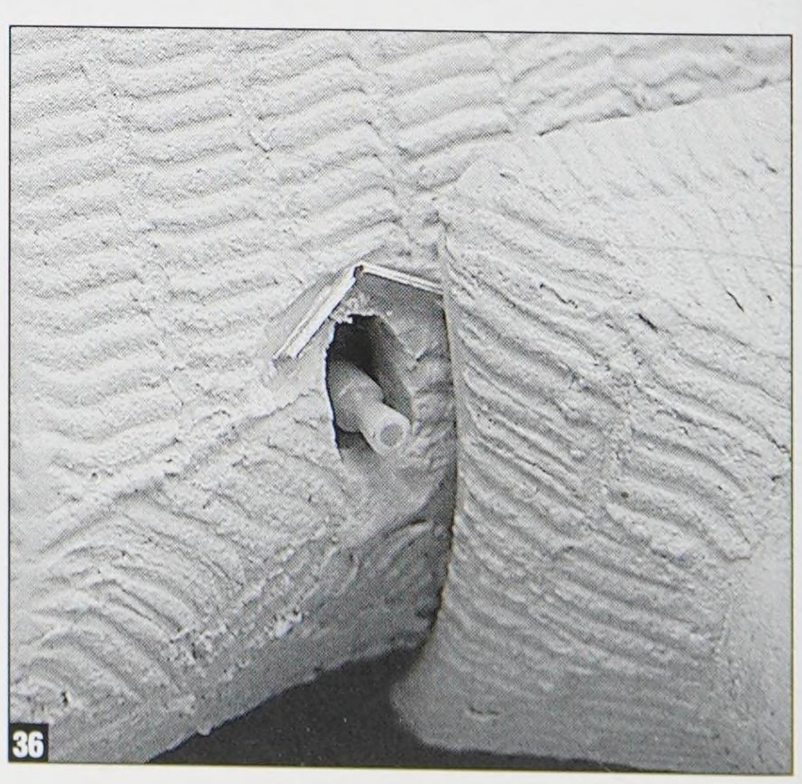
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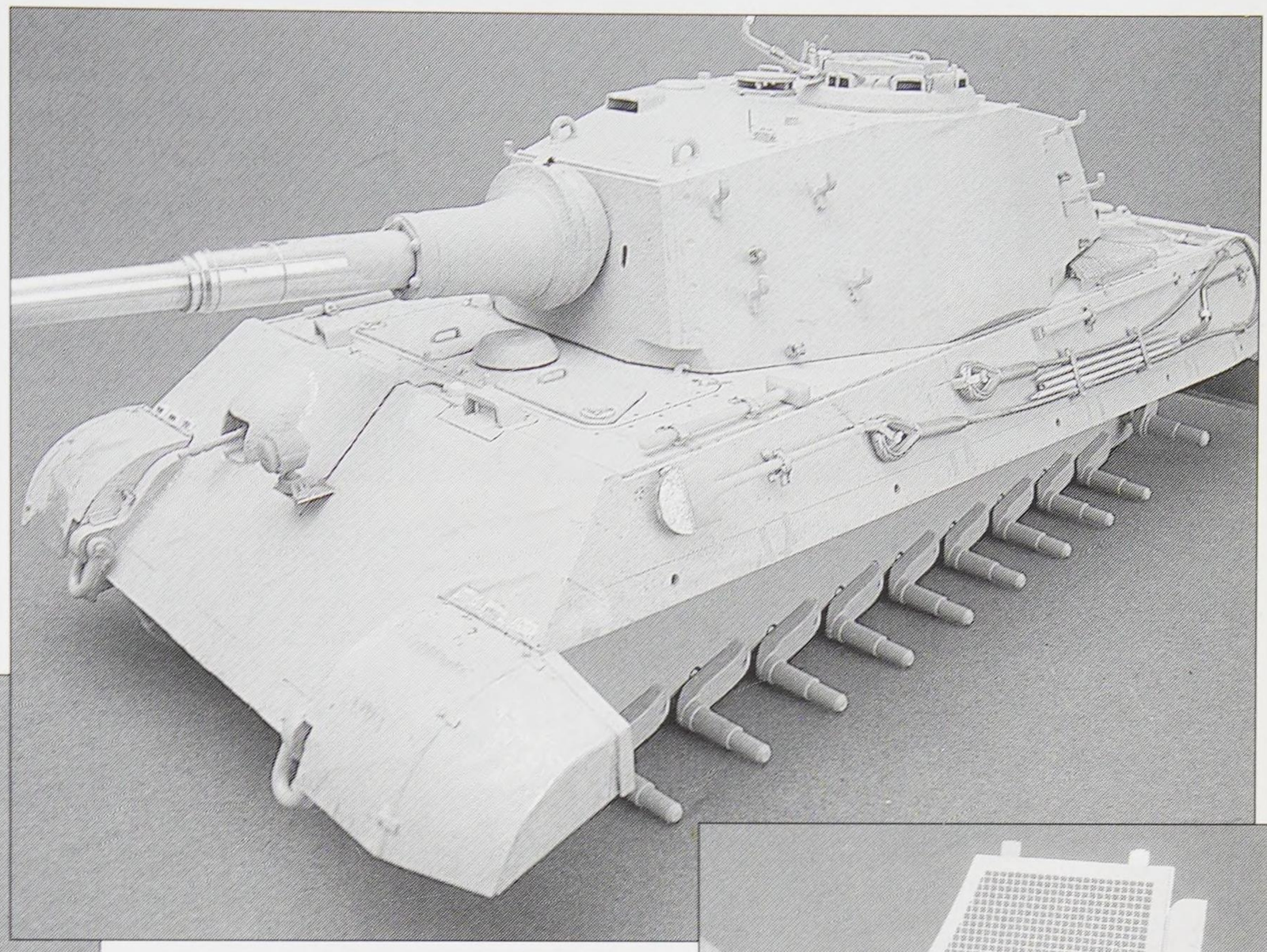
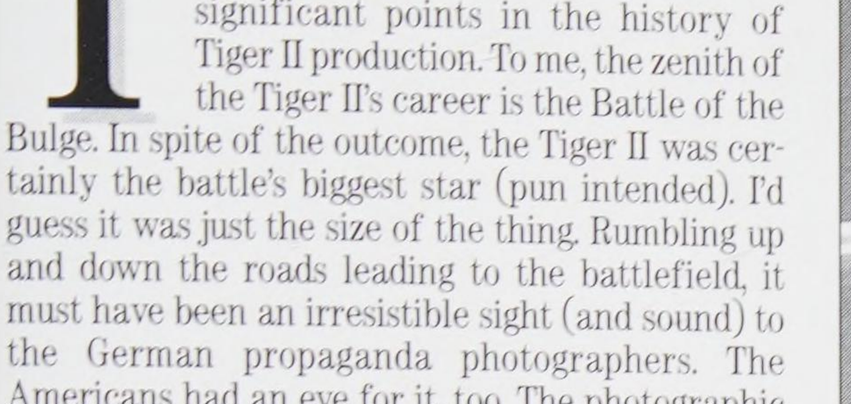
Panzerkampfwagen Tiger Ausf. B - Fgst. Nr. 280302

The Tiger II was only produced for 14 months and barely 500 were built. It is my intent to show what I consider to be significant points in the history of Tiger II production. To me, the zenith of the Tiger II's career is the Battle of the Bulge. In spite of the outcome, the Tiger II was certainly the battle's biggest star (pun intended). I'd guess it was just the size of the thing. Rumbling up and down the roads leading to the battlefield, it must have been an irresistible sight (and sound) to the German propaganda photographers. The Americans had an eye for it, too. The photographic record of the battlefield derelicts is large and a few of them even depict GI's driving abandoned vehicles.

Perhaps the most photographed of all the Tiger II's in the battle was vehicle 222 of the SS s.PzAbt. 501. There's plentiful reference on this cat, which makes it a great choice for a model. The vehicle in question is a November production vehicle and the kit that I chose is Tamiya's "Ardennes Front" Tiger II, 35252. There is no special reason for this choice; the kit is basically the same as 35164. But, I happened to have it on hand and I was happy to have the extra crew and motorcycle sprues. Out of the box, the model represents a summer 1944 production model, anywhere from July to September.

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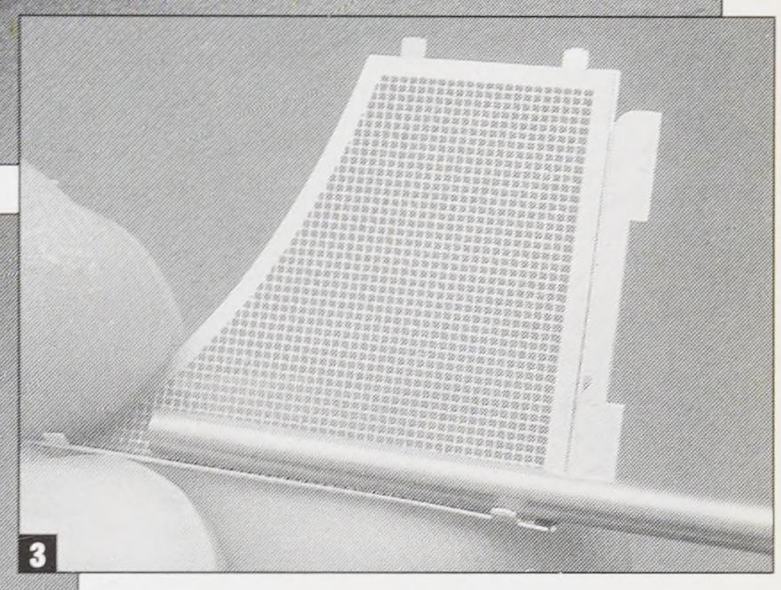
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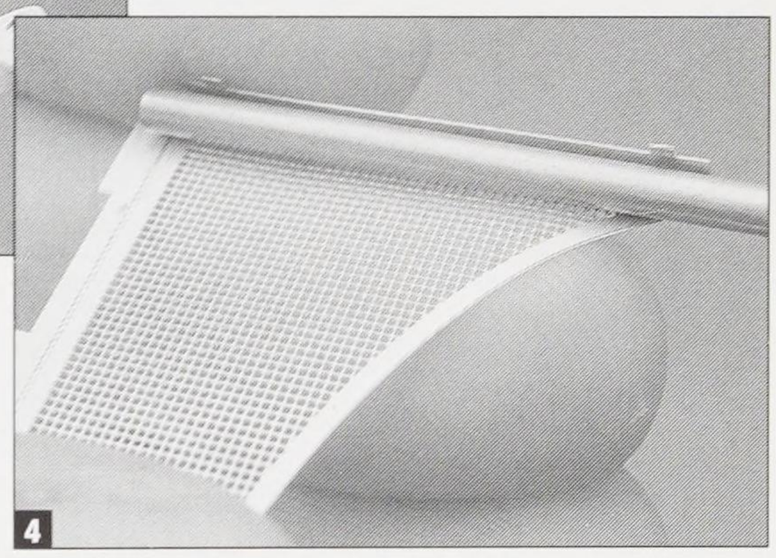
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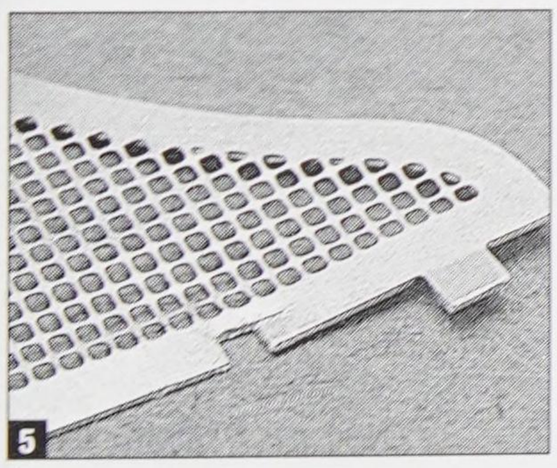
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6

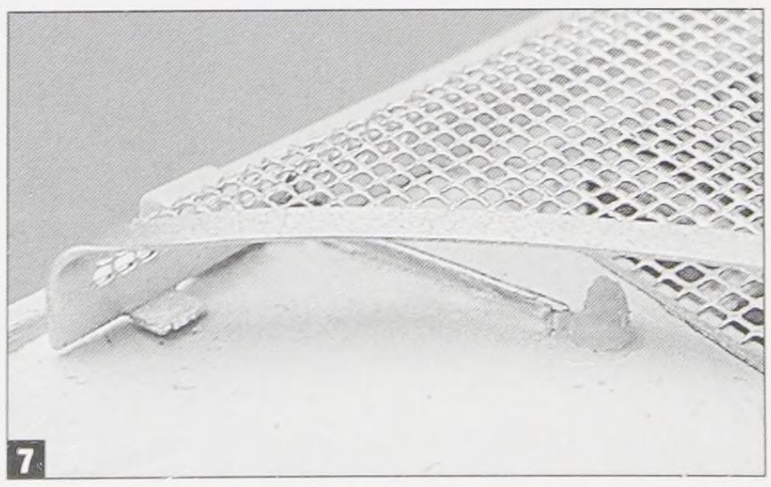
Show me what cha workin' with!

The first thing to deal with is the surface texture of the hull armor. Some guys like to bounce a Dremel tool across the surface of the plastic, but I find this takes a bit too long. It's Mr. Surfacer 500 again, but to achieve this particular effect I'm adding a lot of the material, then stippling it with an old brush. The great part about Mr. Surfacer is that the texture that is raised is not the plastic, it's the Mr. Surfacer. I have a lot of this texture going in **photo 1**. Once the material is dry (20 minutes, tops), the peaks and points are "knocked down" with a sanding stick, resulting in the surface seen in **photo 2**.

With the introduction of the series turret in June, shorter anti-grenade screens were developed and installed on the engine deck of the Tiger I. These are also in the Aber set for the Tiger II (and available separately). Each of the screens needs to be curved along its length. I used a section of brass tube to form the bend. A good gauge for the radius of the curve is the rear panel. I simply matched the size of the tube to this area. I'm beginning to curve the part in **photo 3** and the back panel can also be seen here. After forming the curve, the area is pressed against the rod to straighten it (**photo 4**). It's essential to make the curved bends before bending the back panel down. Otherwise, the part will not remain square.

By the November production, the full set of fuel vents was in place on the hull. These were introduced in October as a result of the reduction in the number of connections between the internal fuel tanks. This helped to decrease leaks in the system, but impeded the flow of fuel, thus requiring the extra venting. In addition to the existing line on the right rear, a line was added to the side opposite and two were added near the forward deck grates. The original vent line was quite short, but the new rear lines were longer and the tops were armored. But anyway, let's check out the front ones first.

The front lines snake out from under the anti-grenade screens, so they must be notched to clear the line. I very carefully notched the outside edge of the screen (**photo 5**) prior to bending in the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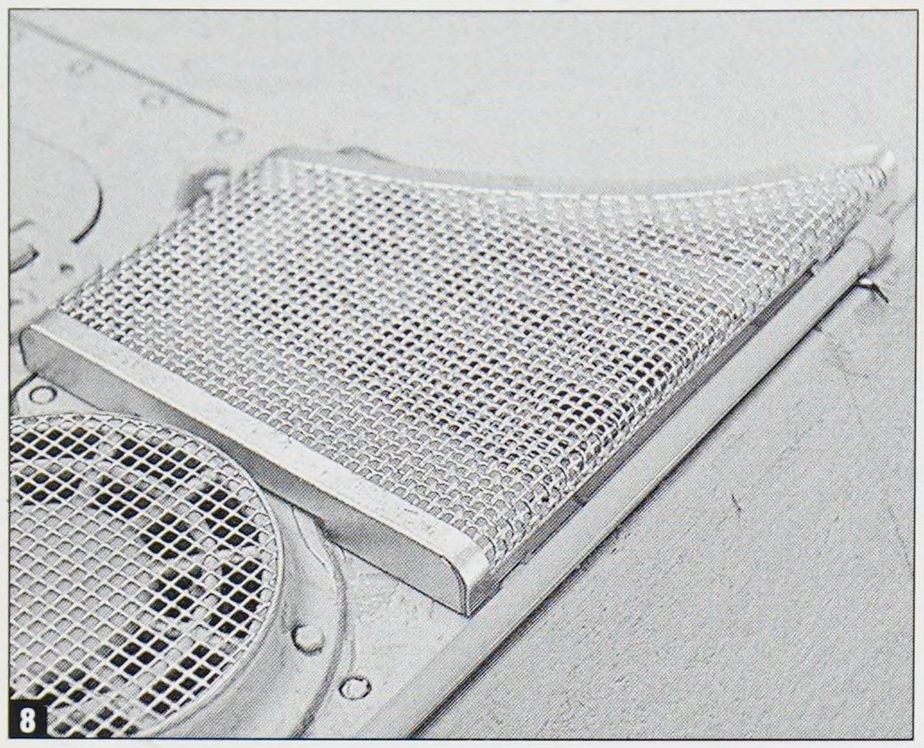


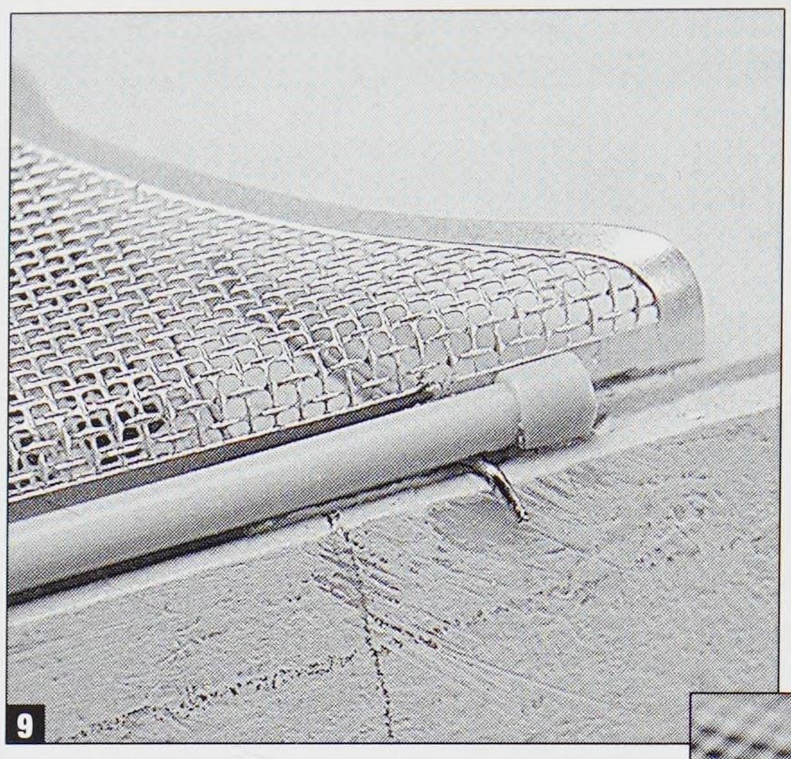
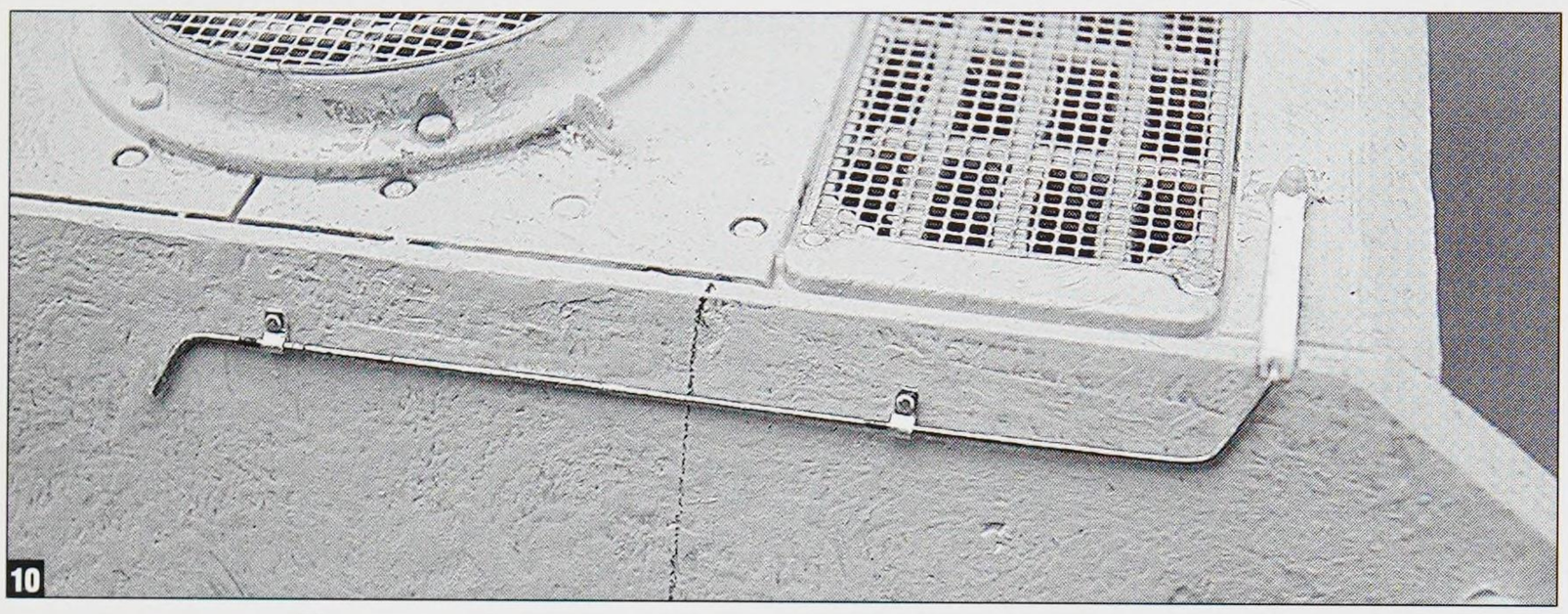
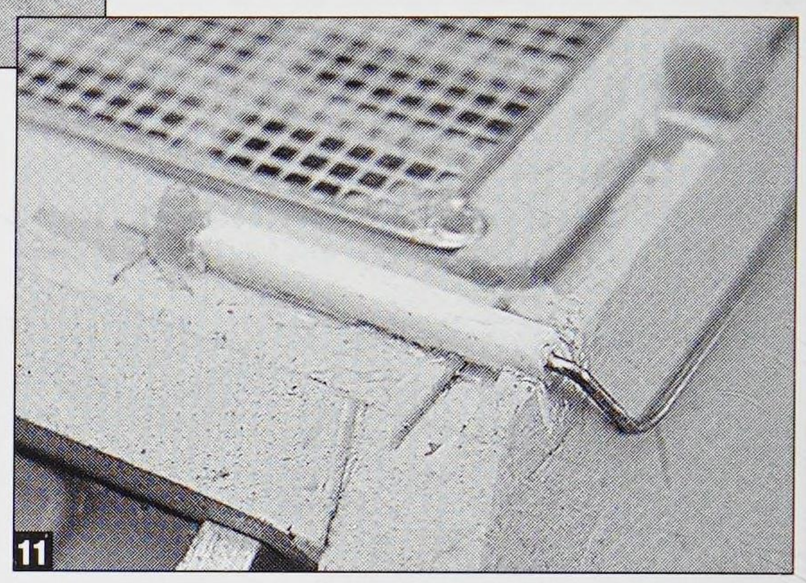


Photo 8 shows the screen in place on the deck and **photo 9** shows how the spare antenna tube was notched to clear the line.

The rear lines were formed using the Jentz/Doyle plans as a guide. Because the wire is so thin, I only applied glue to the teeny fastening clips. These are also part of the Aber set. The finished left side line is seen in **photo 10**.

The armored base of the line on the deck was made from styrene strip. The front end was drilled out to receive the line and the back was notched to snuggle up to the fitting. **Photo 11** provides a view of the base on the right rear of the deck.



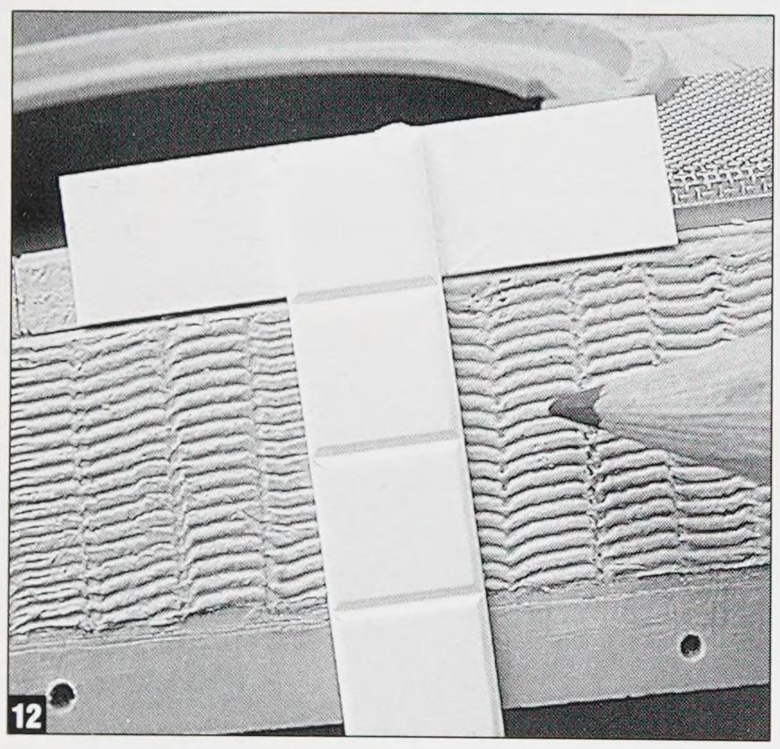


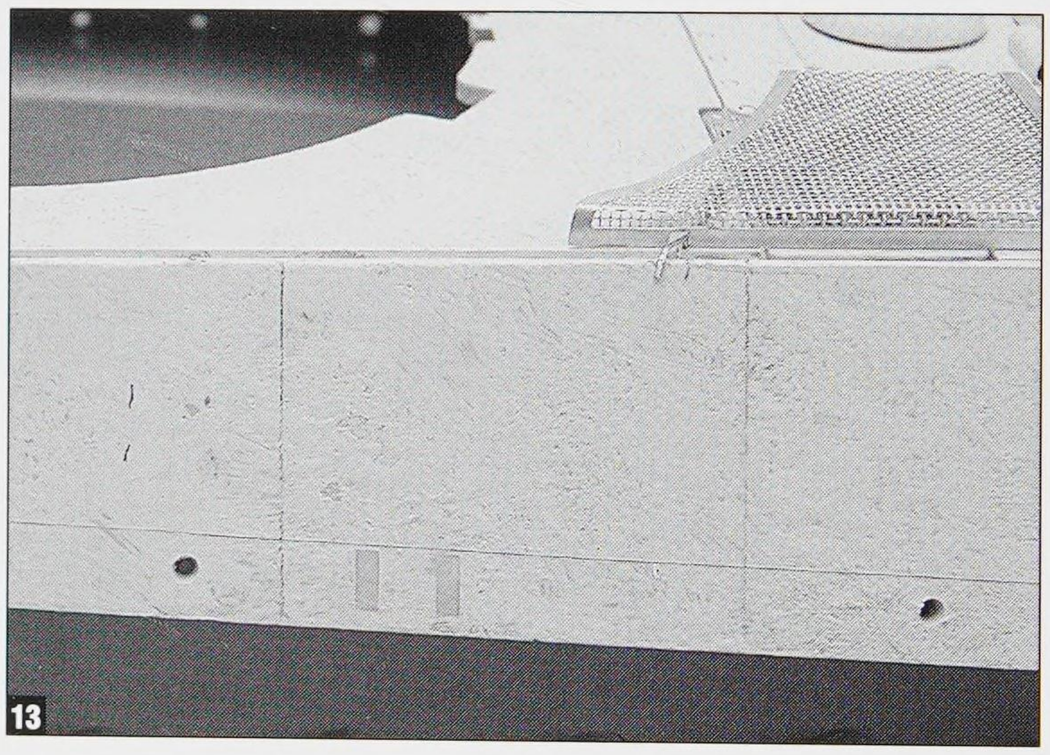
I have an appointment for a fitting...

The installation of the side hull fittings is similar to that on the Tiger I. I used my home made T-square (shown on the previous model in **photo 12**) to mark out the position of the various fittings. My pencil lines are all in place in **photo 13** (some of the fender work is also visible here and in the next several photos).

The gun cleaning rod brackets have been placed in **photo 14** and yes, the brackets are facing the right way this time. Also in place are the Royal hooks for the track cable (along the top edge of the hull).

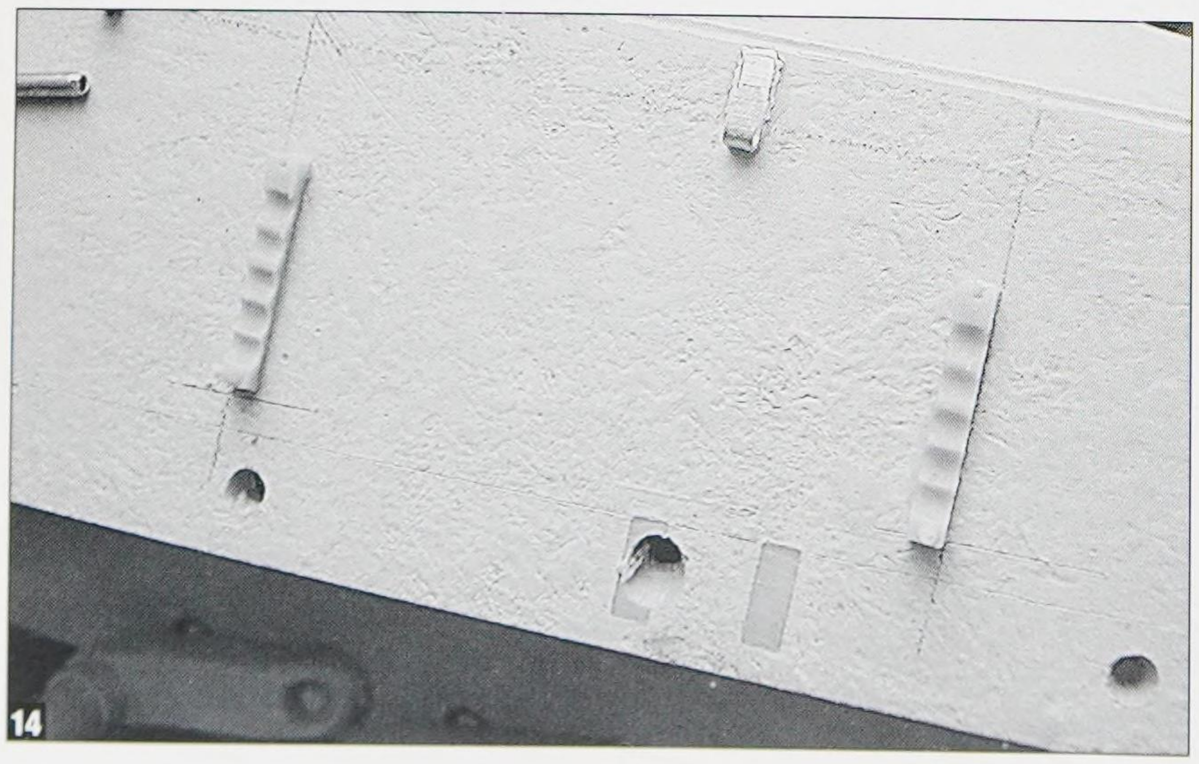
Photo 15 shows the cleaning rods in place. These are slightly longer on the Tiger II and they have to be placed in such a way as to clear the forward tow cable heads and the rear track cable mount. In **photo 16**, the tow cable has been placed in the bracket and in the rear clamps. Tamiya tape is being used here while the cable is being secured. The clamp bars are installed in **photo 17** and the wing nuts will follow. Note that the upper clamp is slanted to match the angle of the cable. This can be

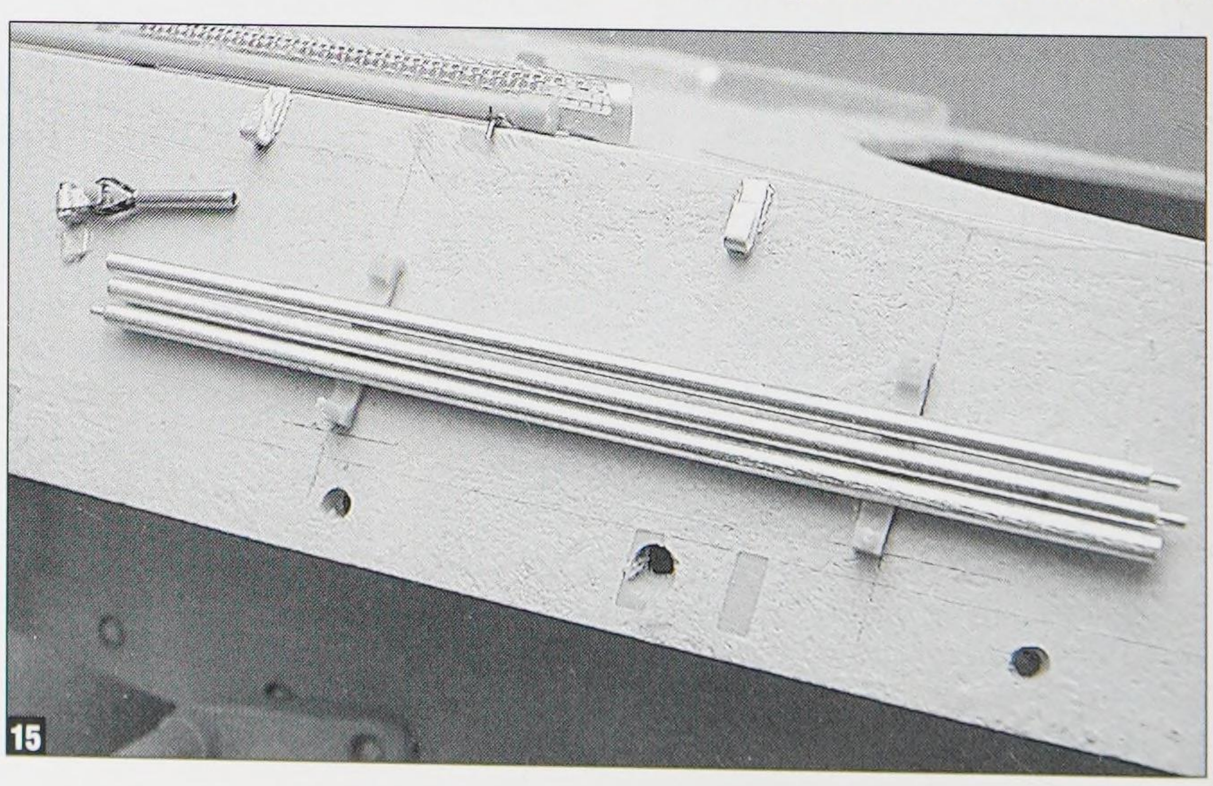


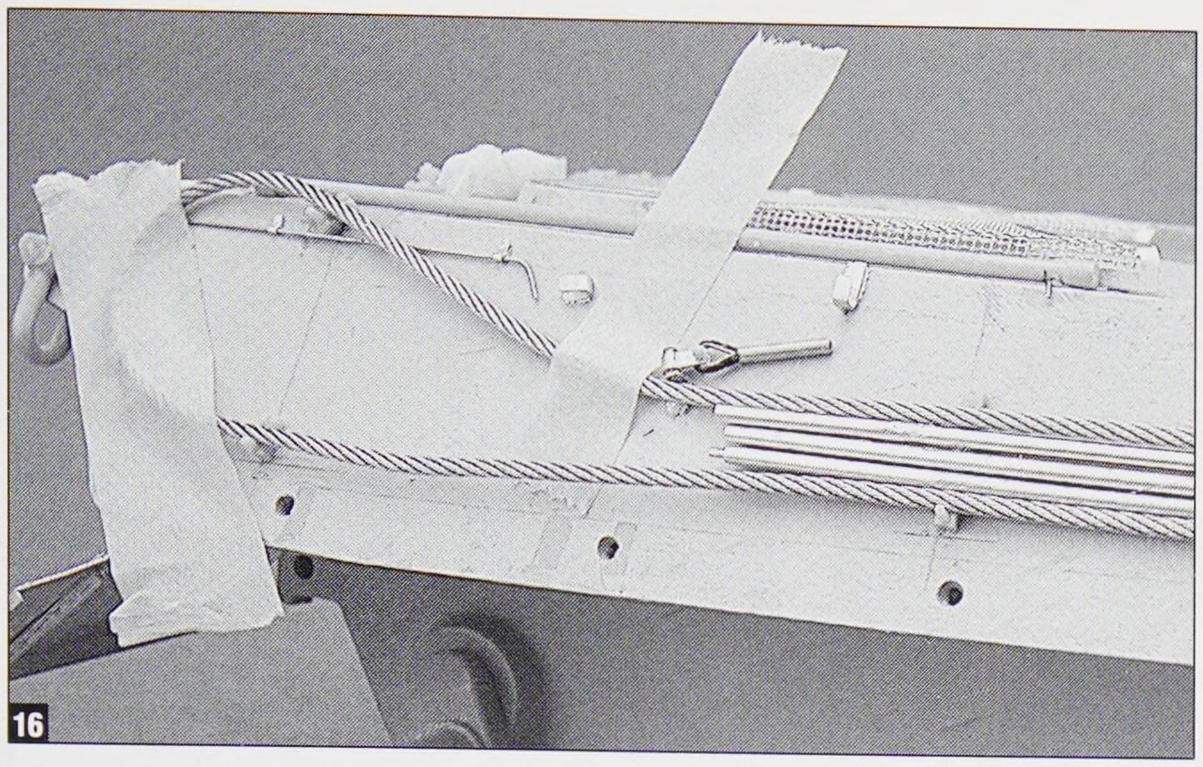


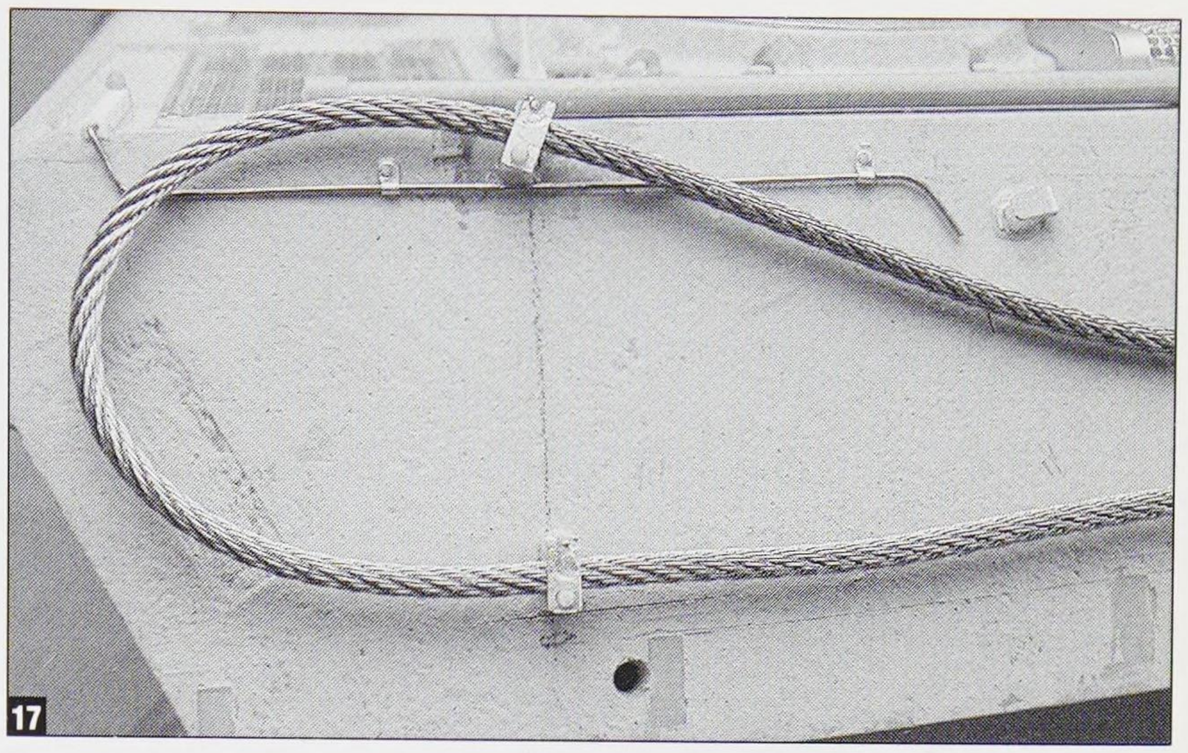
curve. The left-hand line is seen installed on the hull in **photo 6**. The line itself is just brass wire and the fitting is a Grandt Line nut on the tip of a plastic shell. You'll also notice that the screens are installed on the deck grates on this model.

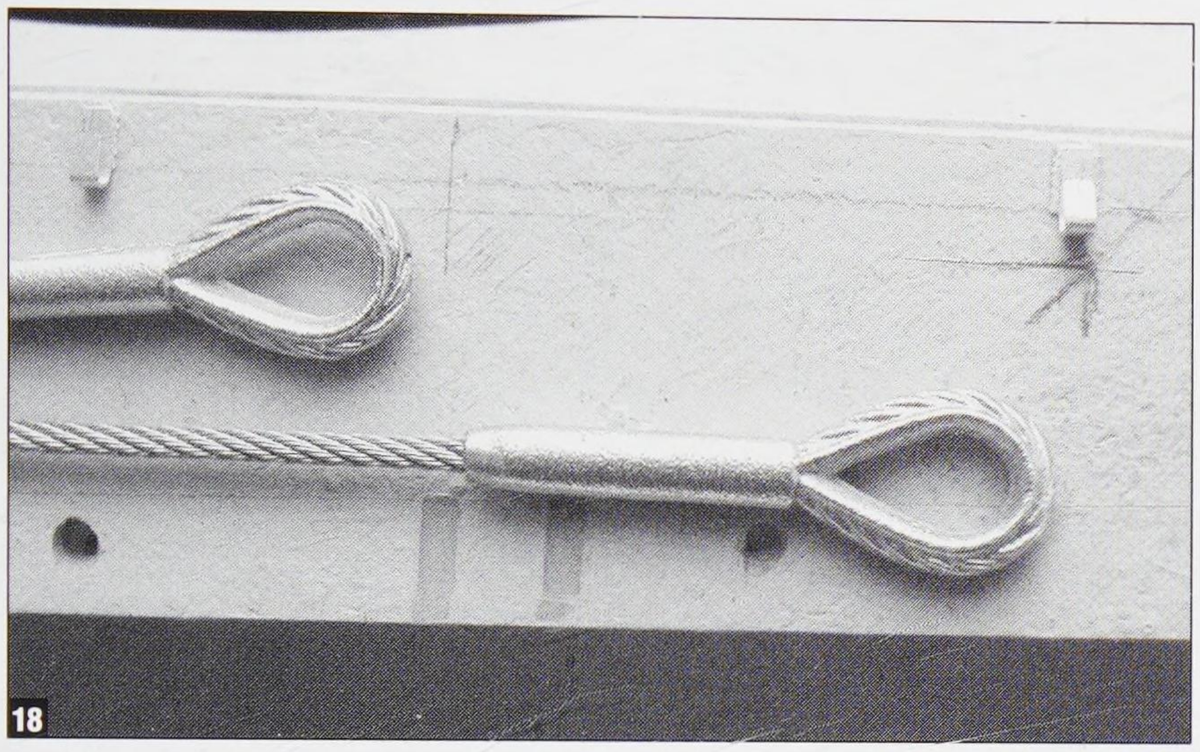
Sadly, not much of the line can be seen when the large screen is in place. **Photo 7** provides a peek from the rear. Also note that the attachment tab on the far cover of the screen is bent backwards. It is my personal theory that the screens were attached in this manner, because otherwise the attachment point would center over the groove for the hull weld bead.

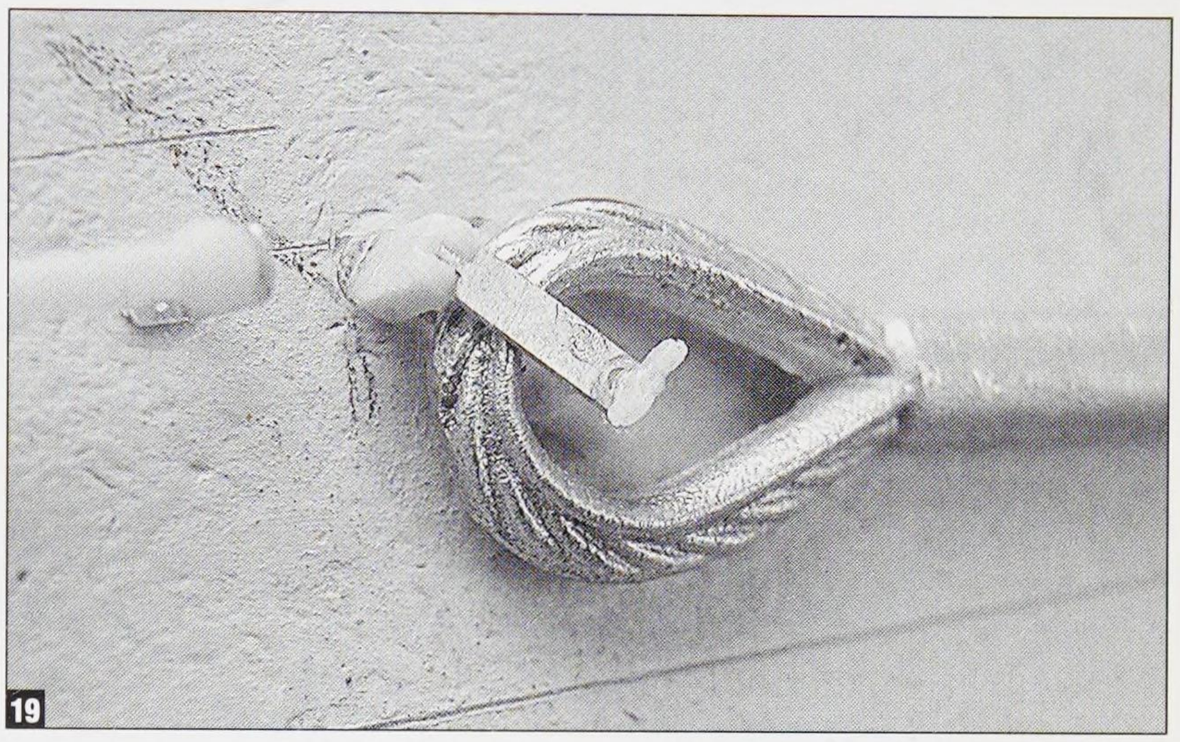












seen in a number of plans and photos.

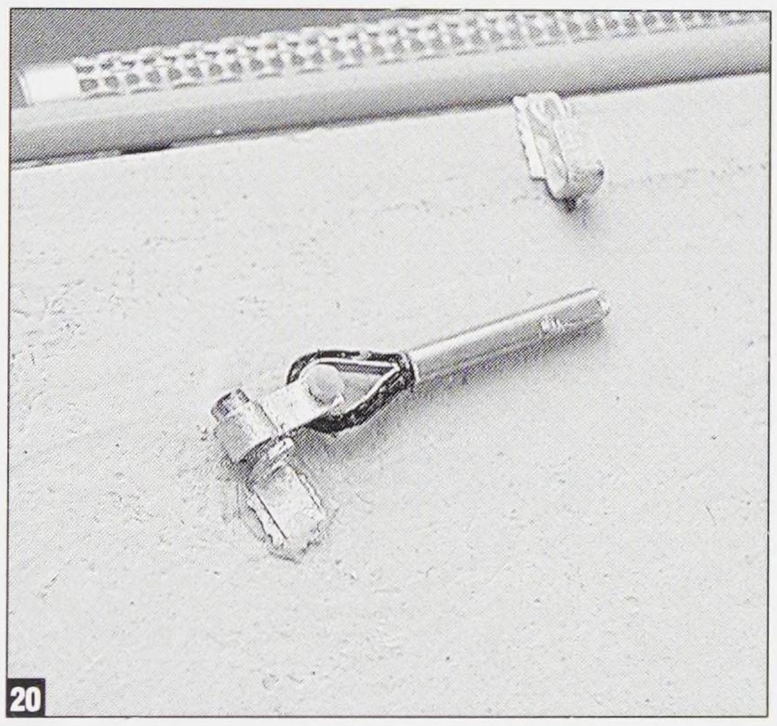
In **photo 18**, the bracket clamps are in place and the tow cable heads are in their initial position. Their final positions can be seen marked on the hull in pencil. The cables were both pushed into place and secured with the pre-made cable clamps (**photo 19**).

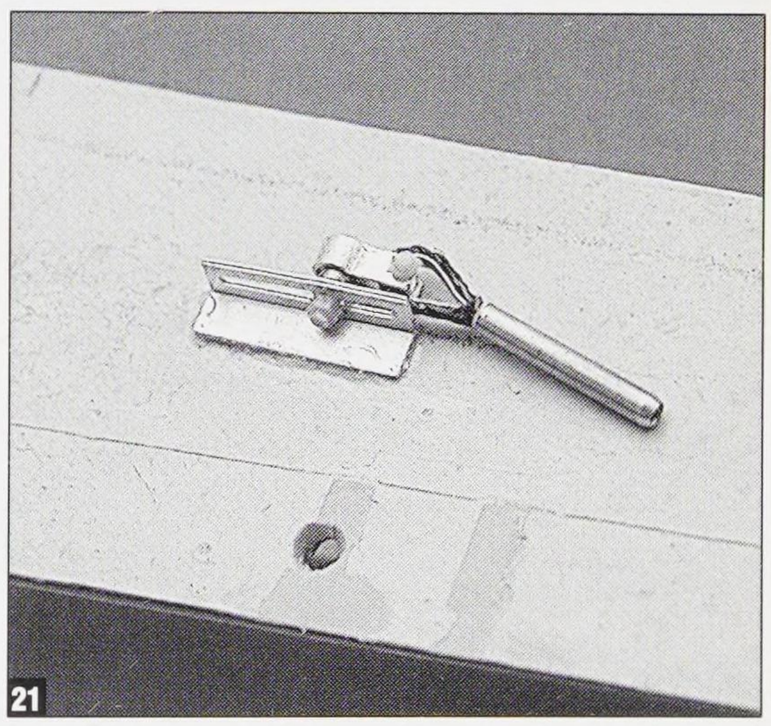
The track cable arrangement on the Tiger II is also very similar to the Tiger I; as a matter of fact, the hardware is nearly identical. The rear cable head and mount are seen in **photo 20**, while the front one and its sliding holder are seen in **photo 21**. Note the hex nut on the bottom of the sliding bracket. This is what secured the clamp and allowed it to be tightened, if necessary. The Royal upper hooks are also seen in these two photos. Each of these etched parts contains a simulated weld bead. Cool!

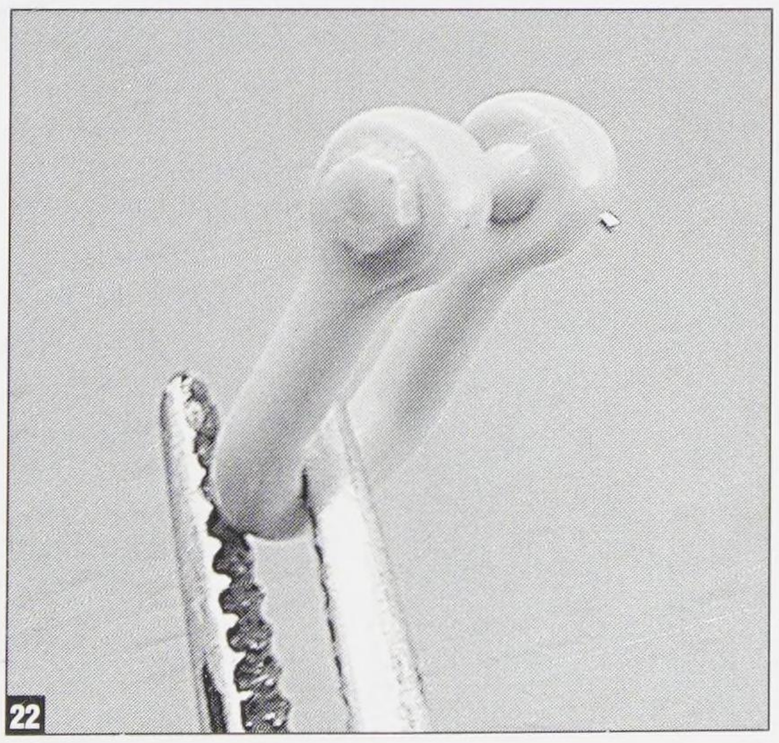
To make them a bit more accurate, I modified the kit's tow U-hooks by replacing their lug nuts with a Grandt Line item (the kit nut has a big seam). This is one you don't see very often on an armor modeler's bench, due to its large size. This is number 128. The opposite side of the U-hook was carefully drilled out to receive a short length of brass wire to represent the cotter pin. All this happy fun is seen in **photos 22 & 23**.

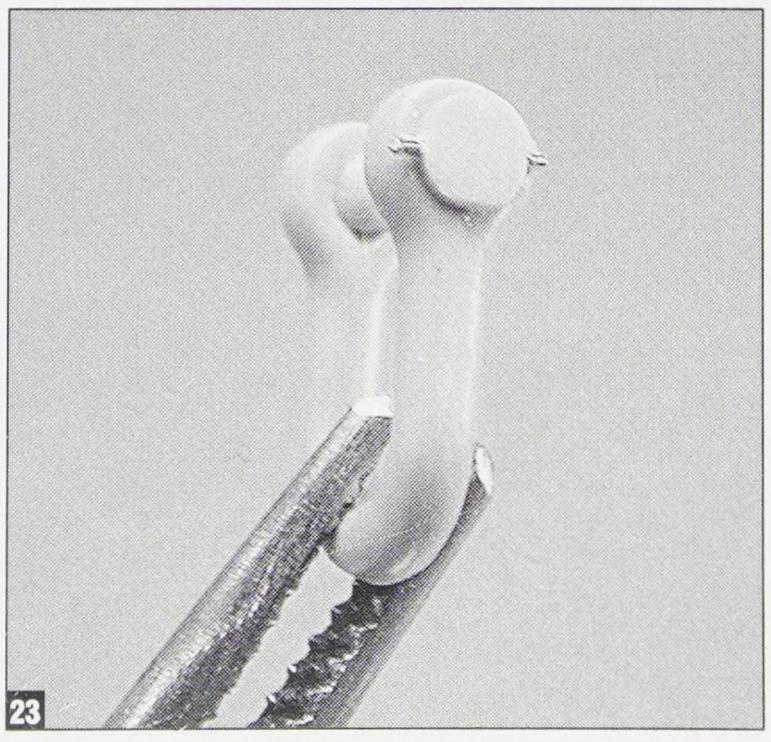
The finished part is seen installed on the hull in **photo 24**, along with the complete Aber front fender assembly. The smaller parts required for the inner fender can be seen here, too. On the real Tiger II, the small rod on the face of the tow shackle is a welded holder for the fender release pin. Mine is actually attached to the fender. Also note the weld beads added around the hinge bases. These were "painted" on with Gunze Mr. Dissolved Putty. The same technique was used to apply the weld bead on the inside of the shackle.

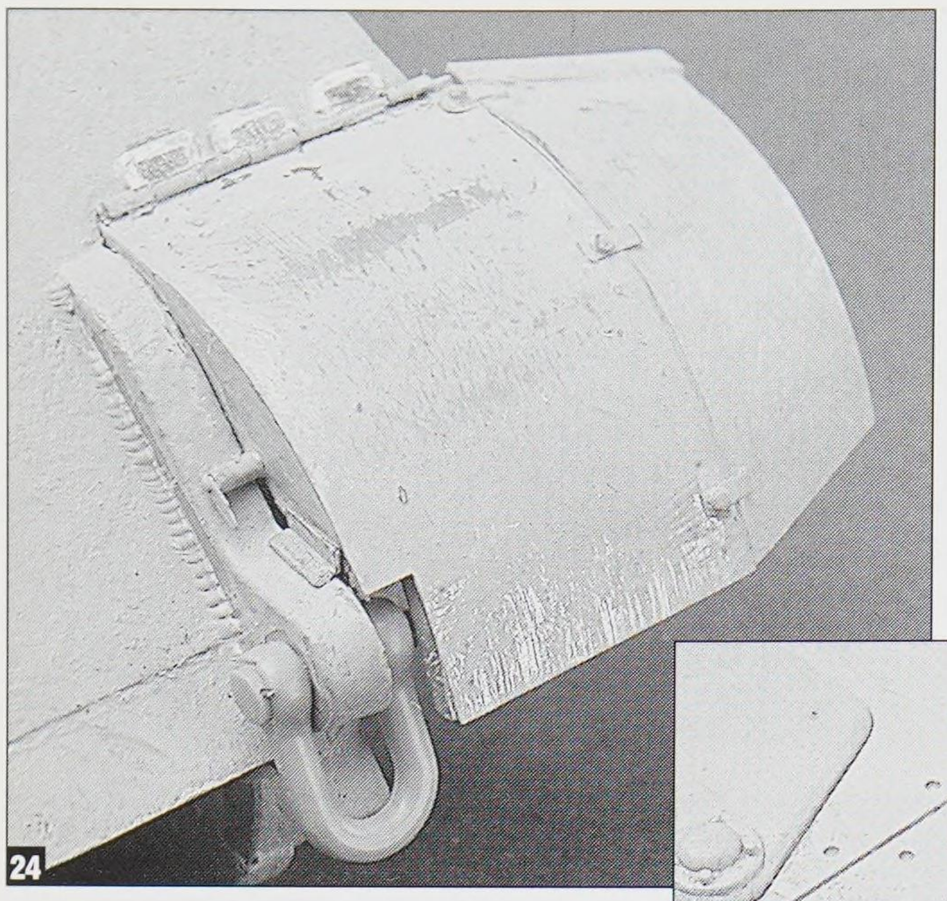
Photo 25 is a "just for the heck of it" shot of the left side tool stowage. These are the AFV Club tools again, with the Aber clasps. There's more tool stowage in **photo 26** and these are the rear hull mounted C-hooks. I have switched to plastic rod for the mounts here, rather than the brass tube and template method described earlier. **Photo 27**







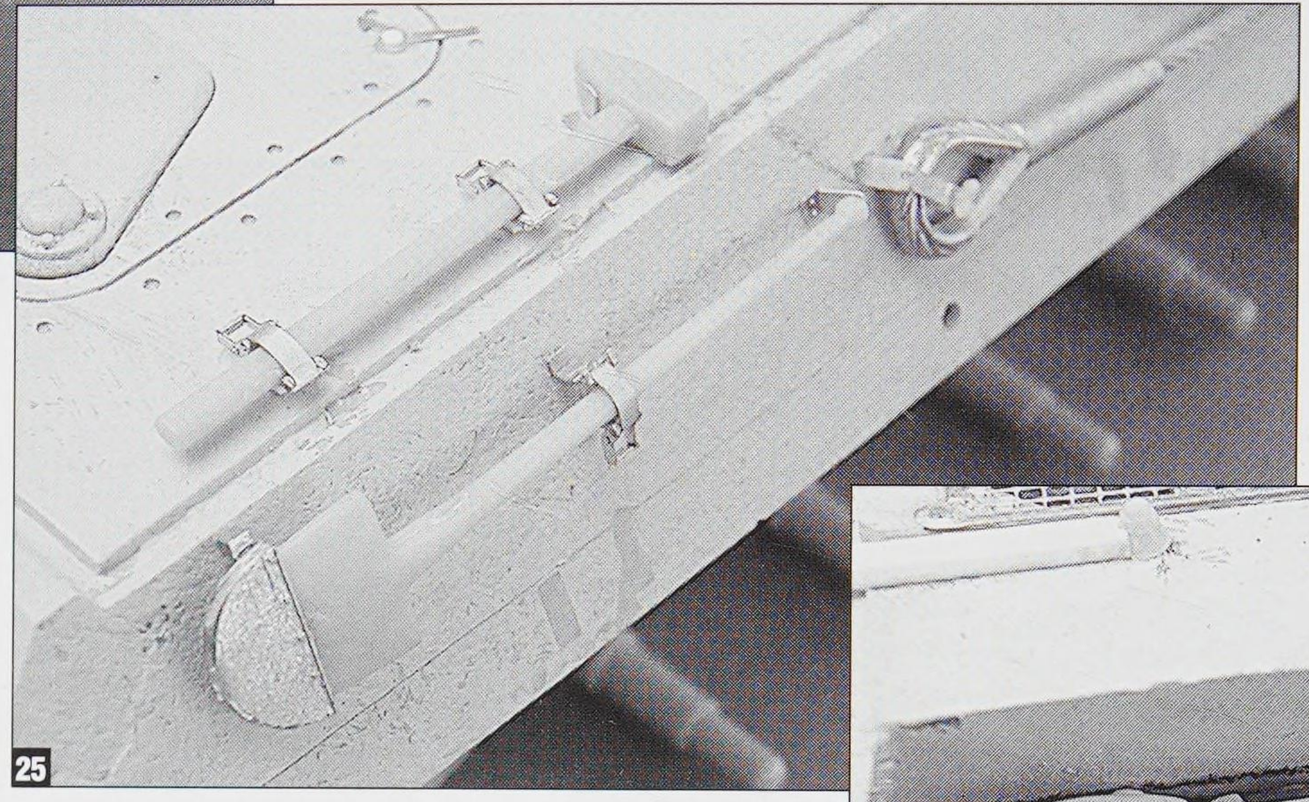



24

depicts a close up of the fire extinguisher on the rear deck. The earlier models all used one of two versions made by Royal, but this is a newer item available from Armory by Gauntlet. It's a solid casting and is pretty nice. I only had to add the activation lever, its guard and some hinge detail.

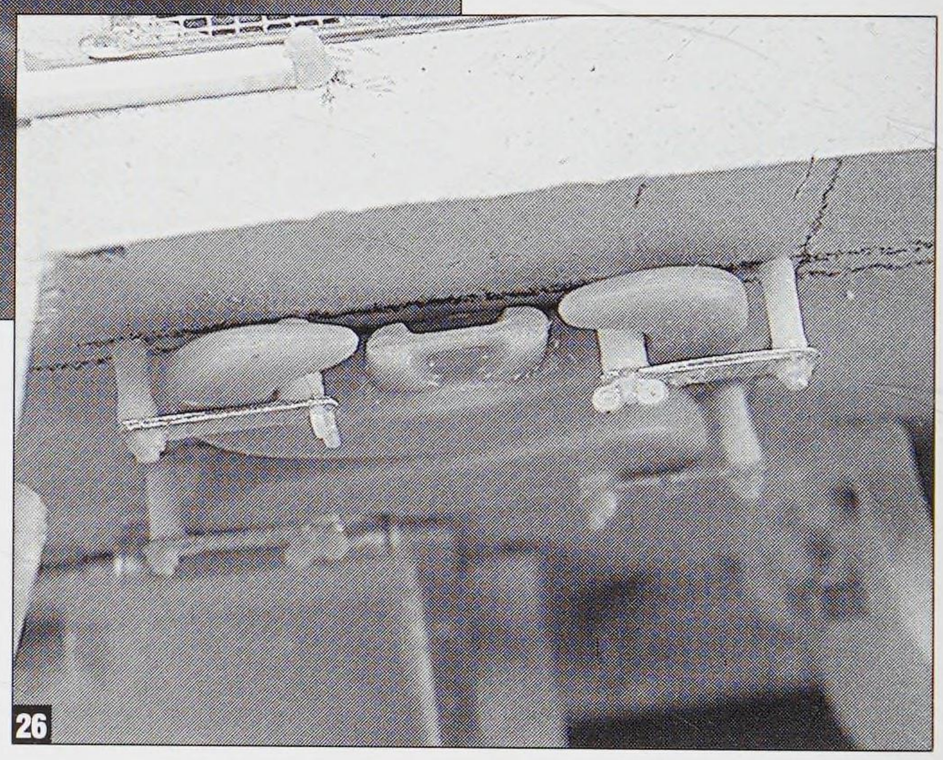
Photo 28 is of the completed back end. Everything has been installed here and one of the most obvious features of the November production can be seen—or rather not seen. This is the absence of the rear-mounted jack. I have a sneaking suspicion that the Tiger II's designers were starting to subtly admit that the vehicle could not be recovered by its own crew. Oddly, in spite of the jack's absence, the jack block remained.

Photo 29 is an "airbrush's eye view" of the completed engine deck. The ultimate bummer is that much of this work is hidden by the turret on the finished kit. Good thing I took a picture, huh? Some very interesting detail layers are developing on the hull sides by this point.


25

Tag! tur-it!

Royal has one especially devilish detail in store for us on the turret. This is ↓ a multi-part assembly for the turret roof ventilator base. It works in conjunction with the kit's ventilator housing and it's composed of four separate parts, made from two different thicknesses of etched brass. All the parts are laid out in **photo 30**. The stock Tamiya housing is seen at the rear and the brass parts are arching through in front of it. The finished ↓ assembly is at the front left and the ever so slightly modified Tamiya part is to the right.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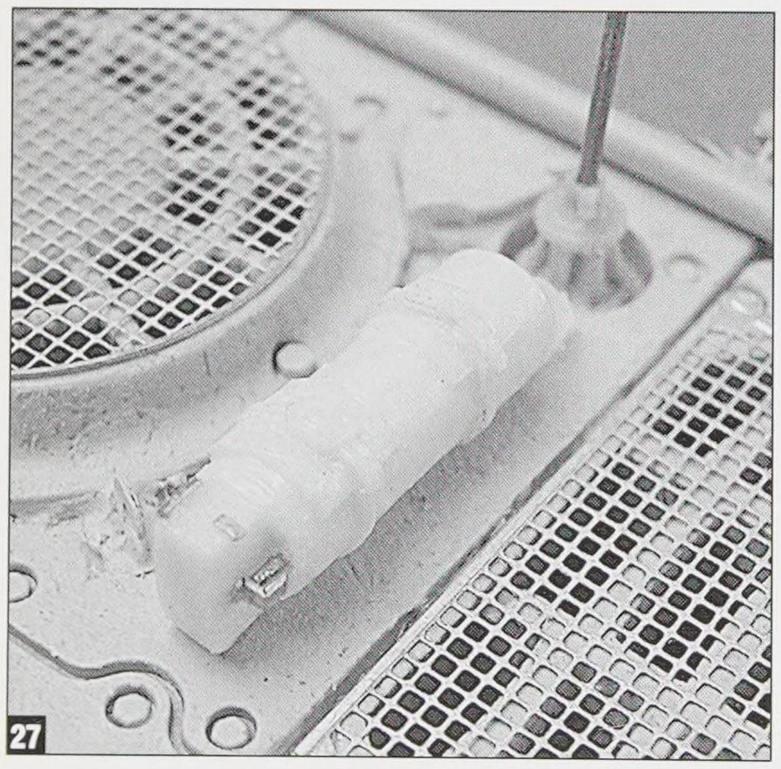
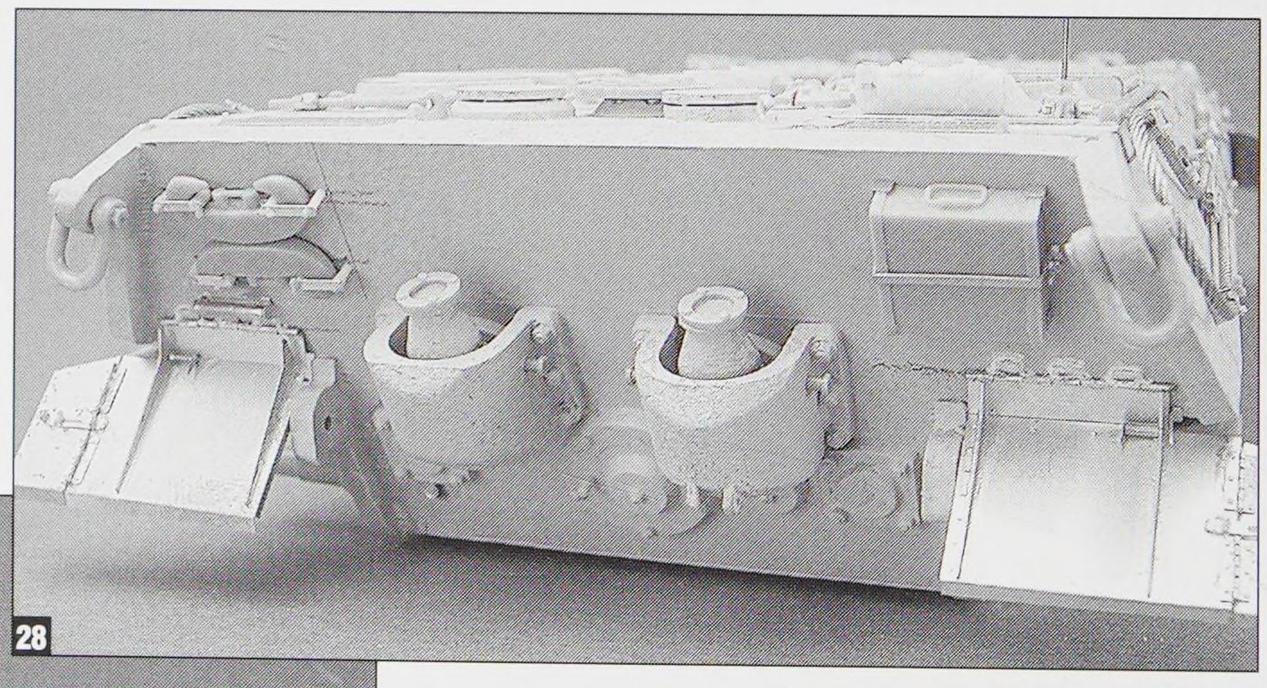

27

As you may or may not know, the ventilator was designed to take a watertight cover that was attached with hooks that slid *under* the corresponding tabs on the base. By offering this up as a multi-part assembly, those raised tabs are created, as well ↑ as the milled lip of the base. Wow! The finished part is visible in **photo 31**, it has been installed in **photo 32** and the cover has been added in **photo 33**.

One turret detail that is easy to miss is the stop for the turret shell ejector port. This is equally easy to make with a small wedge of plastic and it is seen in **photo 34**.

A small strip of metal was installed on the forward edge of the turret to prevent rain from "sheeting" down the face of the front turret armor. This was added with a thin strip of styrene (**photo 35**). The poison gas detection panel mount is also seen here (Aber again), in addition to some more of my texturing efforts on the mantlet.

A small block with a swiveling vane was installed on the turret just forward of the commander's hatch. This corresponded to two wires mounted on one of the commander's periscopes. These were used together to allow the commander to roughly aim the turret in preparation for ↓ firing. The block is present in the Tamiya kit, but it's not detailed in any way. I carefully removed it with a chisel tipped blade, then drilled it out to receive fine wire for the vane. Once it was re-installed, two Grandt Line nuts were added to the top (**photo 36**).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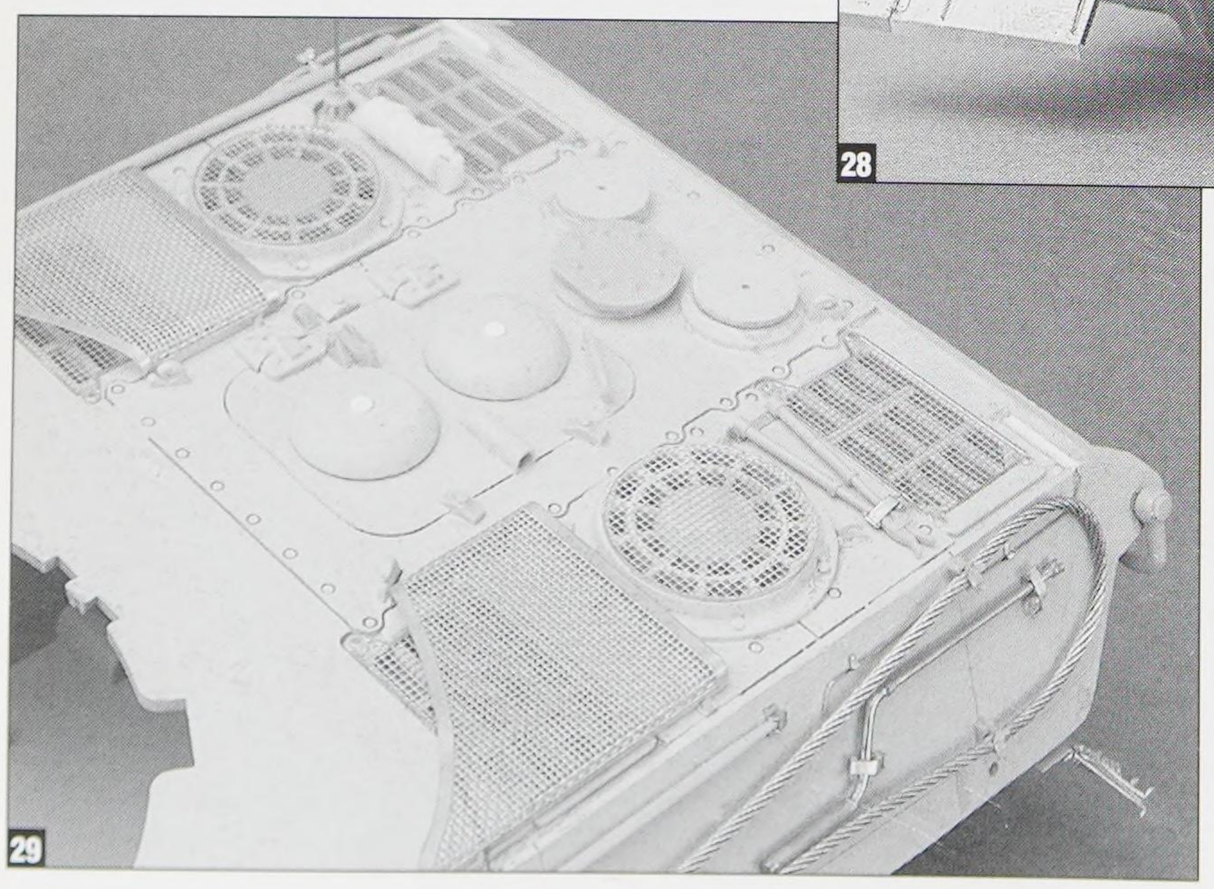
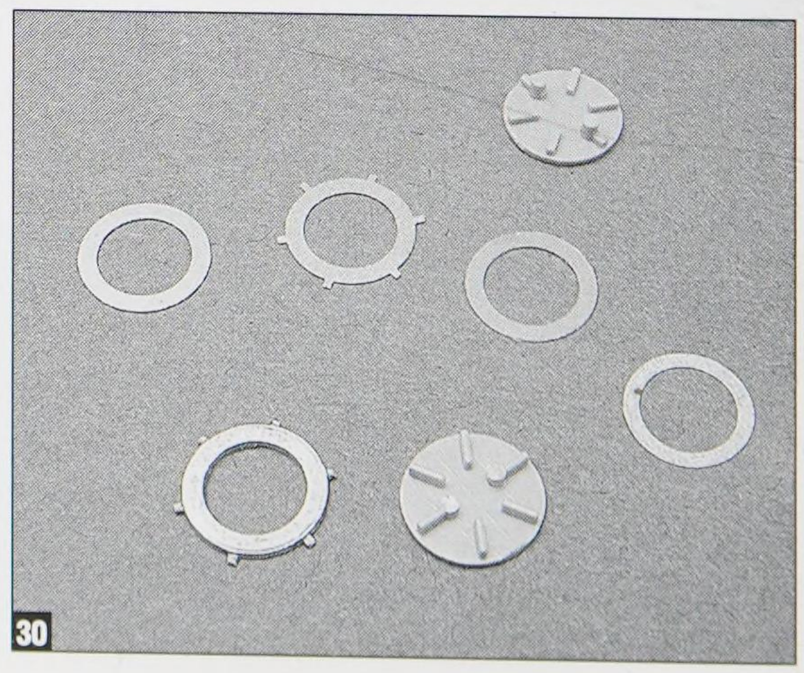

29

I ran right out of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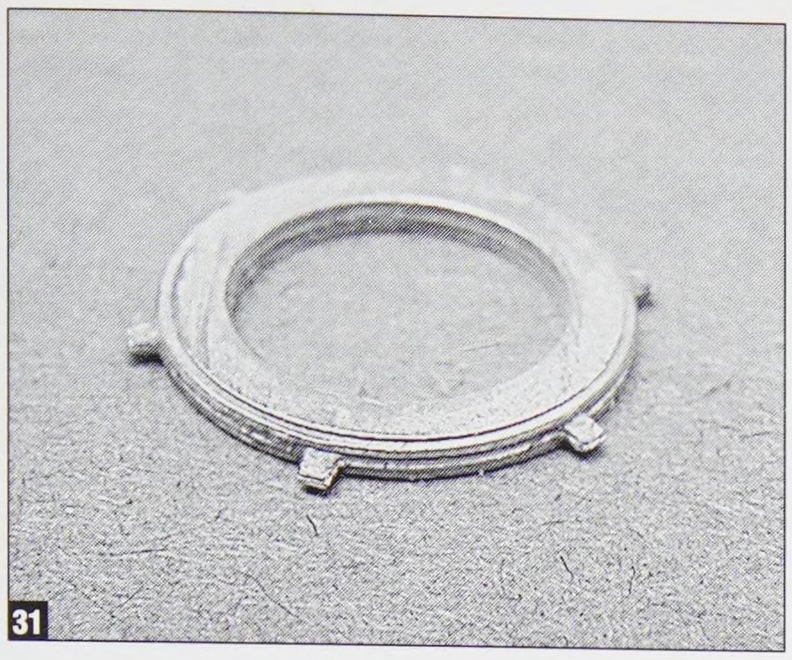
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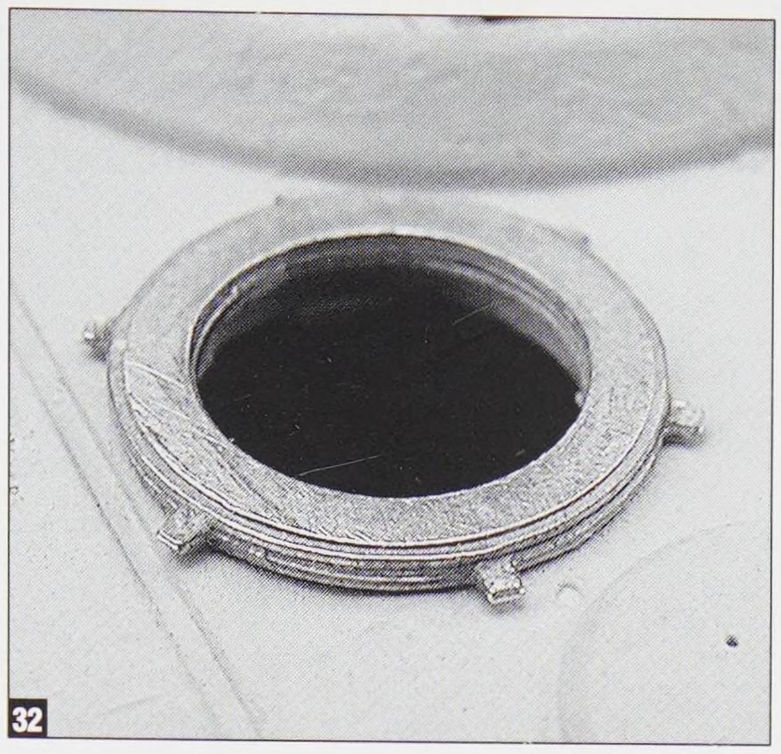
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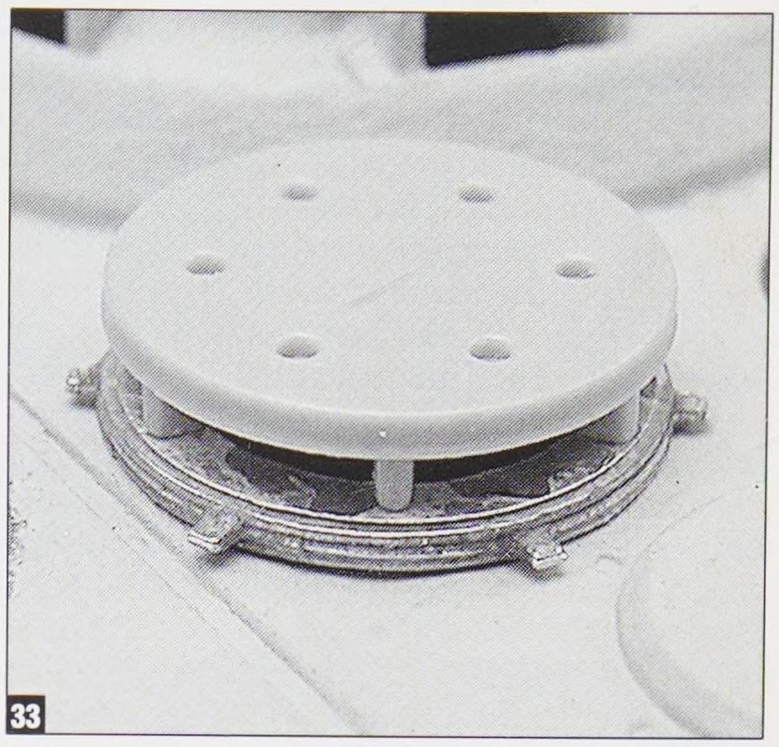
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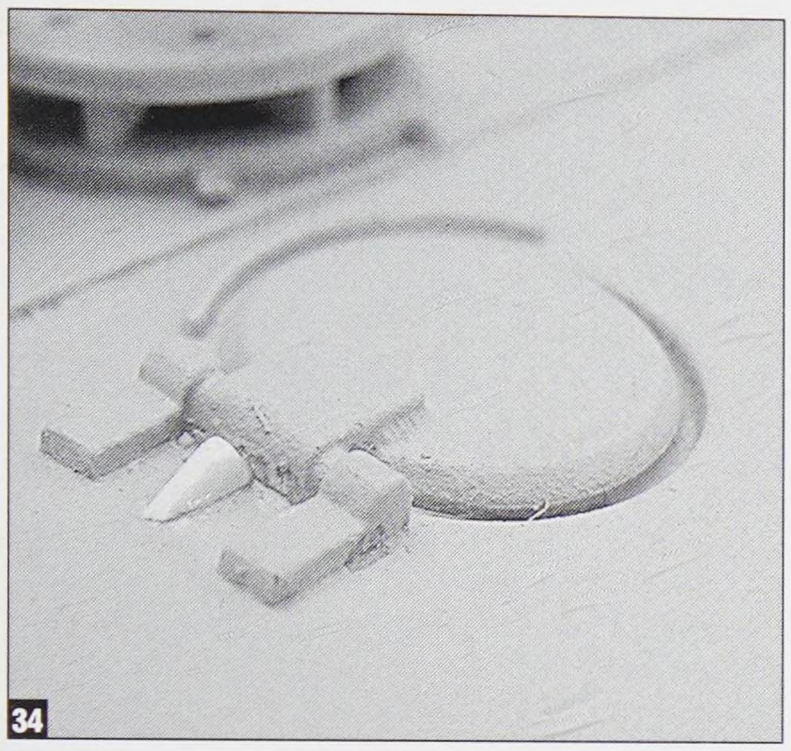
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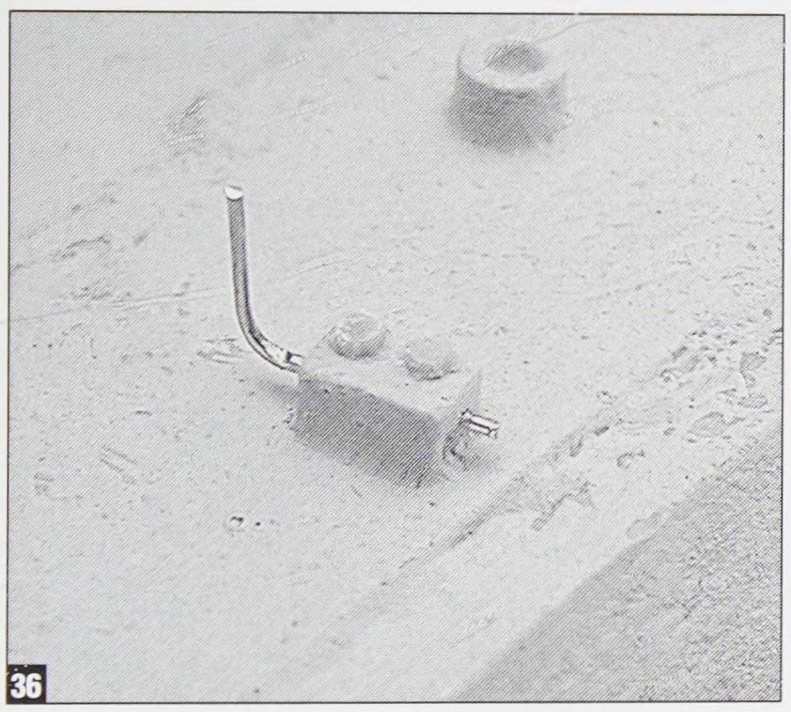
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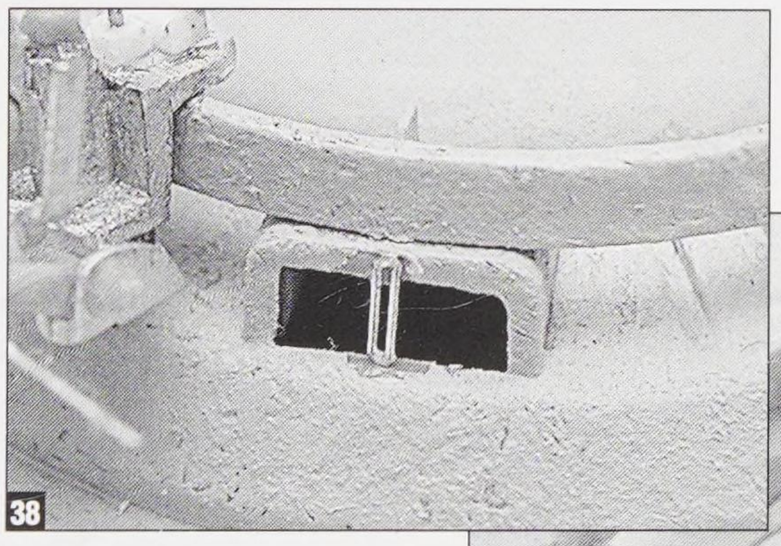
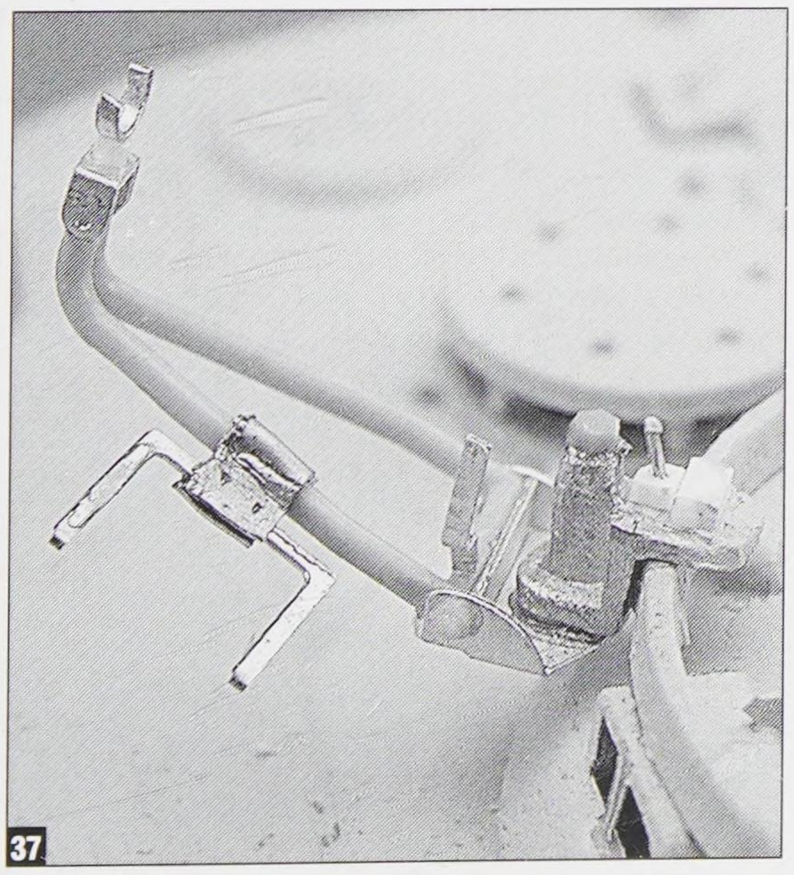
the Clipper MG mounts, so I turned to a combination of Aber, Azimut and Tamiya parts. **Photo 37** illustrates the final results. The base is Aber, while


38

the post and catch are from the old Azimut set. The arm is from the Tamiya kit and the gun cradle, ammo bag clip and lever are also from Aber. There are a few plastic bits, too. It's not as nice as the Clipper assembly is, but I think it's OK.

The other half of the commander's vane sight is shown in **photo 38**. This is provided in the Royal set and is extremely fine, tiny and looks great when installed.

Royal continues this diabolical theme with some of the additional parts for the cupola. Visible in **photo 39** are the tabs for the commander's hatch lock, the slotted detail for the end of the hatch arm and the small hatch stop. Those bastards!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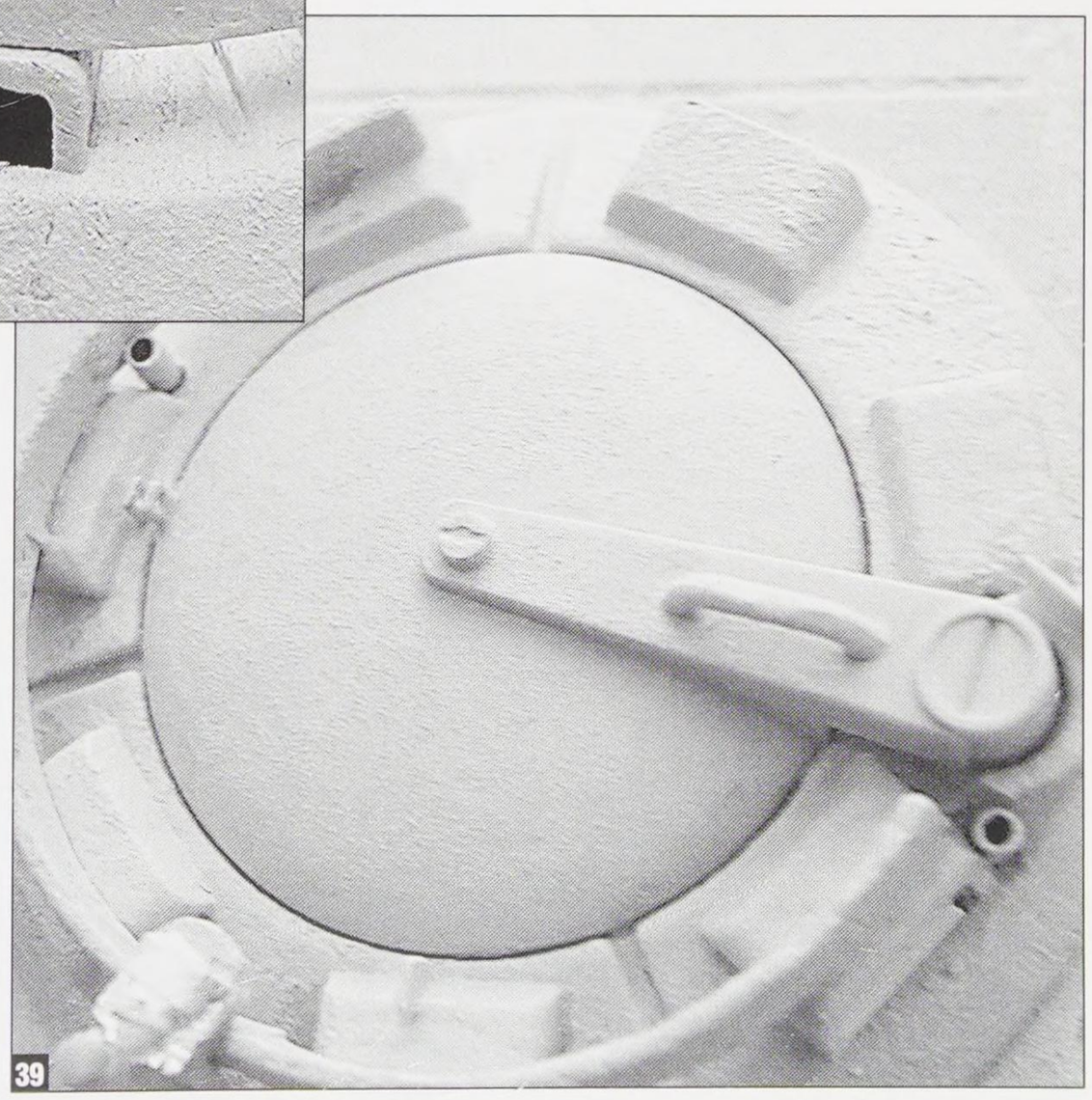
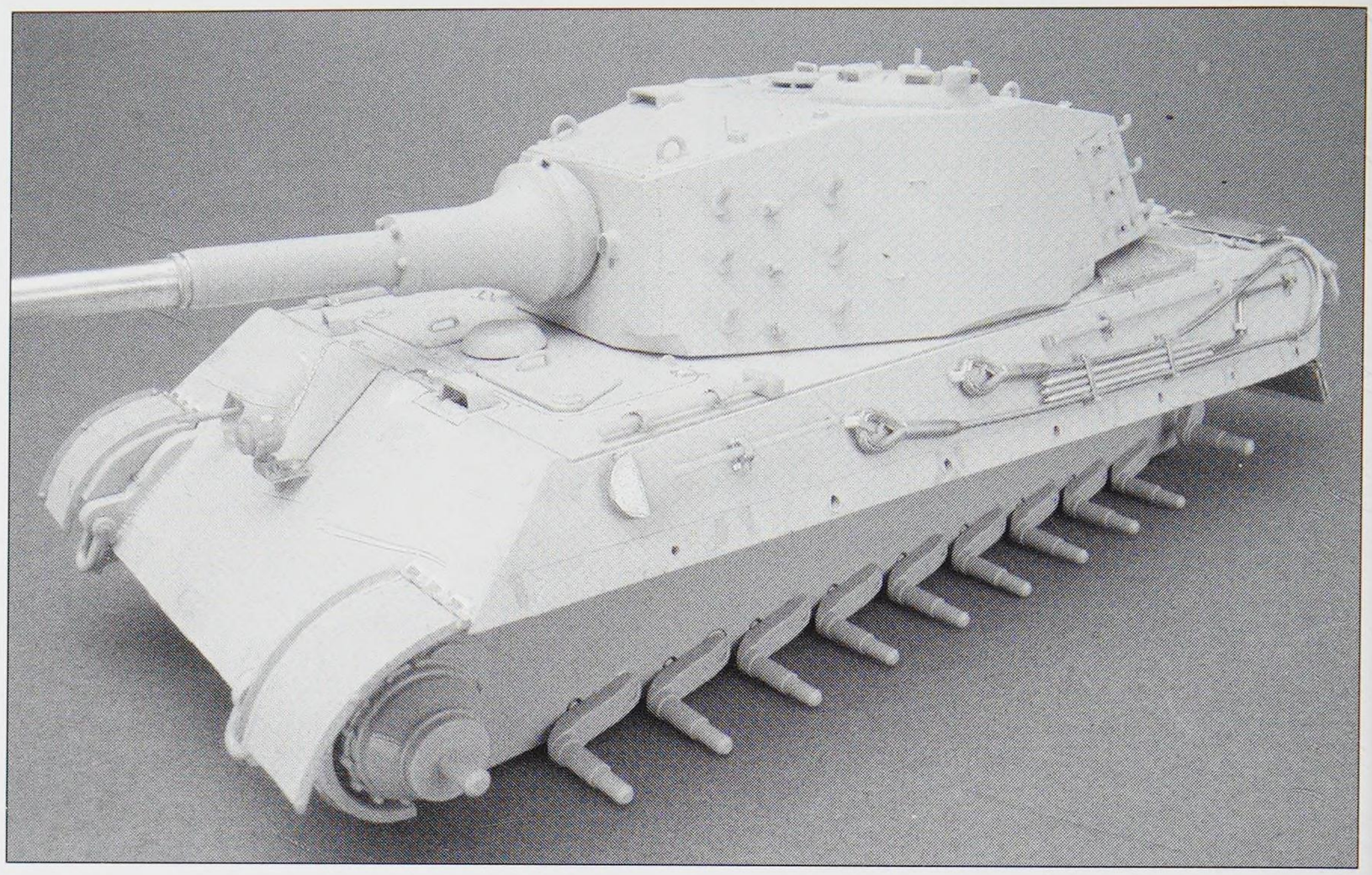
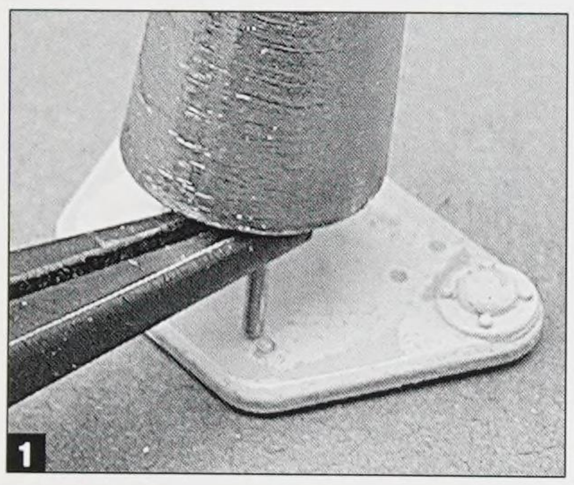

39

And so we come to the end of our story. This model, appropriately enough, is the final version of the Tiger tank produced during the war. In fact, I am proposing it is one of the last Tiger tanks produced—ever.

The March 1945 production of the Tiger II brought about the last major changes to the tank. I found these fairly interesting considering its short history. The silly idea of a two-piece track was finally abandoned in March for a single link track known as the Kgs 73/800/152 (in case someone asks). This was used in conjunction with an 18-tooth drive sprocket. Both modifications improved the stability of the suspension and lessened the incidence of thrown tracks. The remainder of the hull stayed much the same, with the exception of the front fenders, which as of March had two distinctive ribbed strips along their length. At least one photo exists of a March vehicle with metal shields over the back two engine grates. This is stated by Jentz to have only been an experimental procedure, but it apparently did creep into fielded vehicles at least once.



The most dramatic March changes were to the turret. The commander's MG ring mount was deleted and replaced by a simple post for mounting the MG and, towards the end of March, the number of track hanging hooks on the sides went from eight to 12. Also, large rings were welded to the turret sides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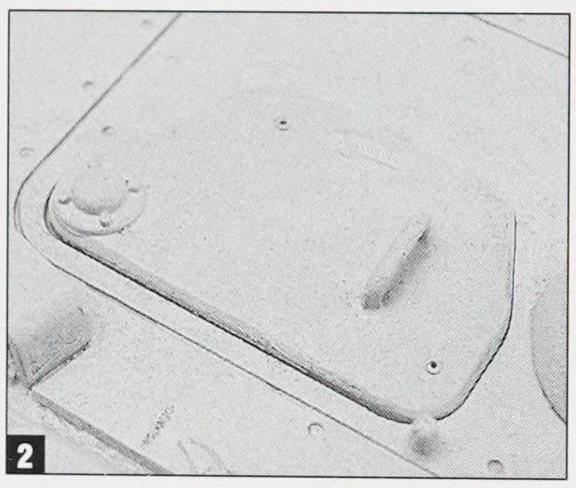
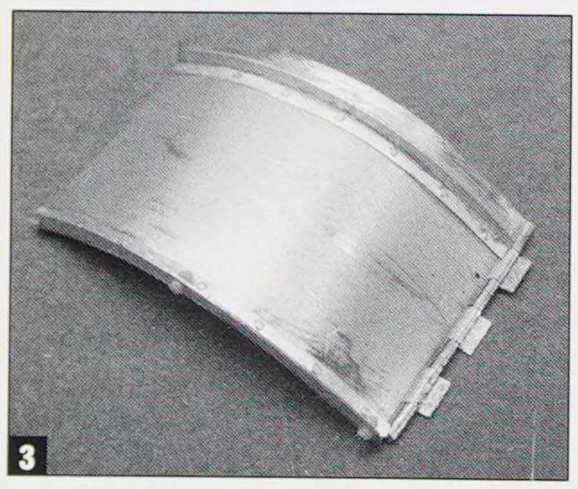

2

to be used to attach branches for camouflage. Although they are not specifically noted in any of the available documentation, there are two other small modifications that have been common in photographs of March production turrets. The first is a smooth casting for the gun mantlet and the second is two raised dots on the rear turret hatch. There are no actual photos of these very late production turrets on a tank (with the extra track hangers), but it seems almost certain that at least one made it onto a combat vehicle. However, there are photos of earlier March production turrets. Fortunately, there are plenty of photographs of a captured late turret that was briefly evaluated at Aberdeen Proving Grounds after the war before being unceremoniously scrapped. There are also other, smaller mods in both the hull and turret, and I'll cover those as I make them.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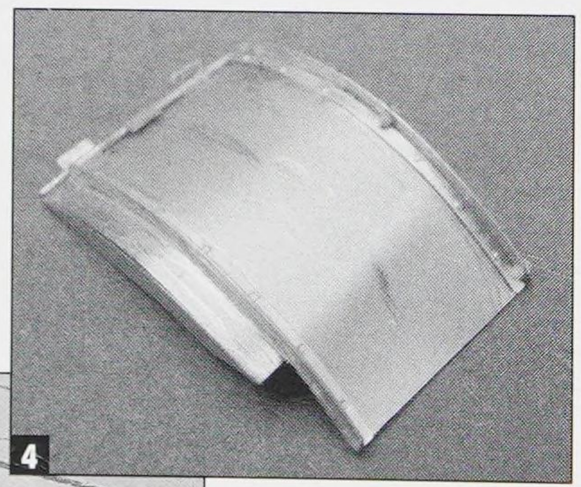
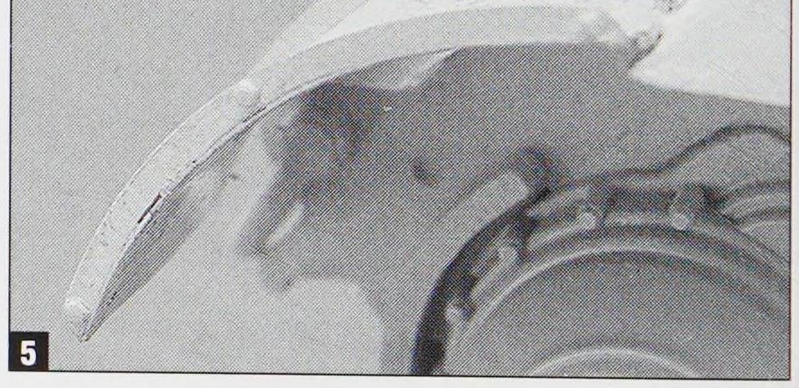

4

I used the same basic kit as the previous model (35164 or 32252). All the modifications can be easily made to this hull. The turret is the trick. I was given a huge head start on the turret by obtaining the Chesapeake Model Designs conversion for what they call the "Proposed June 1945" changes. This kit was developed as a result of information compiled by Jentz on the future changes to the Tiger II that were to be introduced in June of 1945. Of course, none of this was actually done, but you know how the folks love the Nazi fantasy stuff. But, here's the thing. Besides the addition of a range finder (ala Patton), the turret in the kit is a spot on late March '45 production version. This resin part has also been enhanced with many smaller details, like weld beads and precise dimples for the camo loops. So, this became part of the project. As of this writing, the turret is not available as this earlier version, but I'm keeping my fingers crossed.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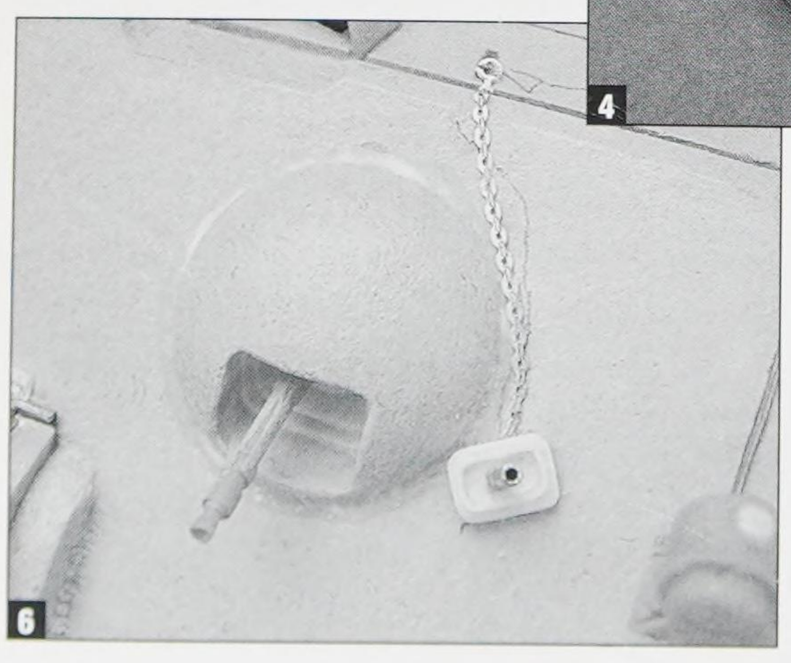
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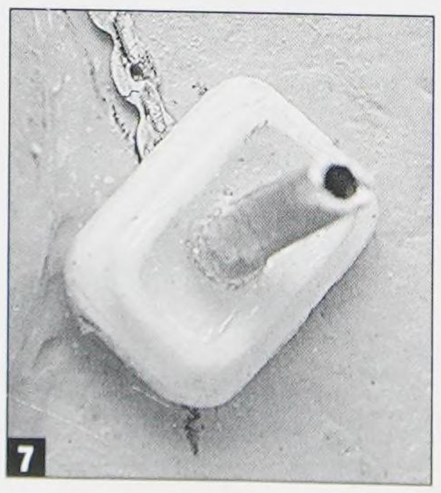
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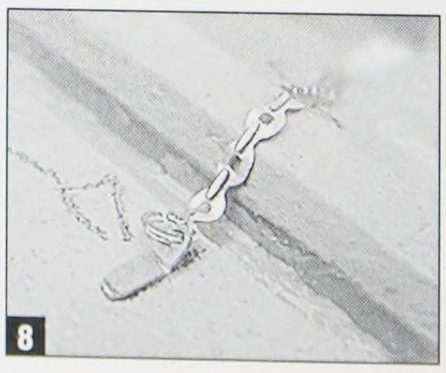
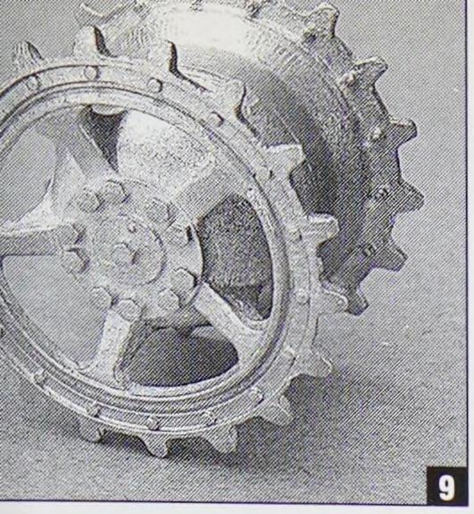

8

Patzer Vor!

Back in late November or early December, the two front hull hatches were redesigned. They were simplified somewhat, with two indentations, rather than six. The new marks are sort of recessed rings and to make them I used a section of small brass tubing as a punch. **Photo 1** shows how I lightly struck the required area using a 2-ounce hammer and the tubing. This provides the outer ring and the inner circle was created by piercing the area with the pointy end of my dividers. This makes a bit more sense when you look at the finished hatch in **photo 2**.

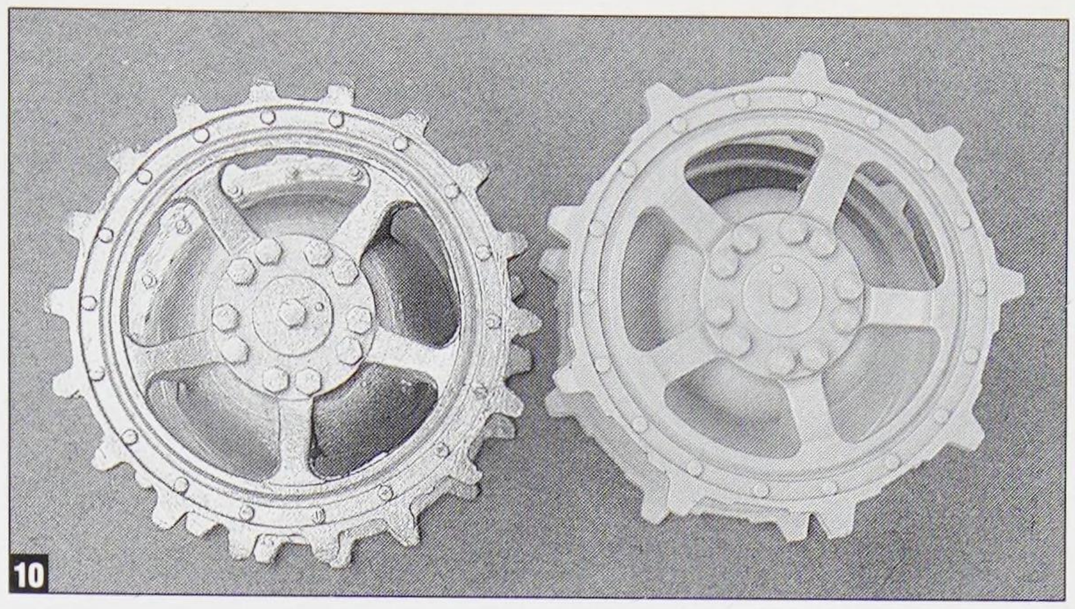
I was originally stumped on where to find the late style fenders, but wouldn't you know it, they are part of the Aber fender set for the Tiger II.

These late style parts are strange, in that they are basically inside out versions of the old fenders. The angled supports that normally installed on the bottom of the fender are now installed on the top. Like the earlier version, the outer support serves as the attachment point for the outer panel. Pretty much all the existing photos of March production Tiger II's show



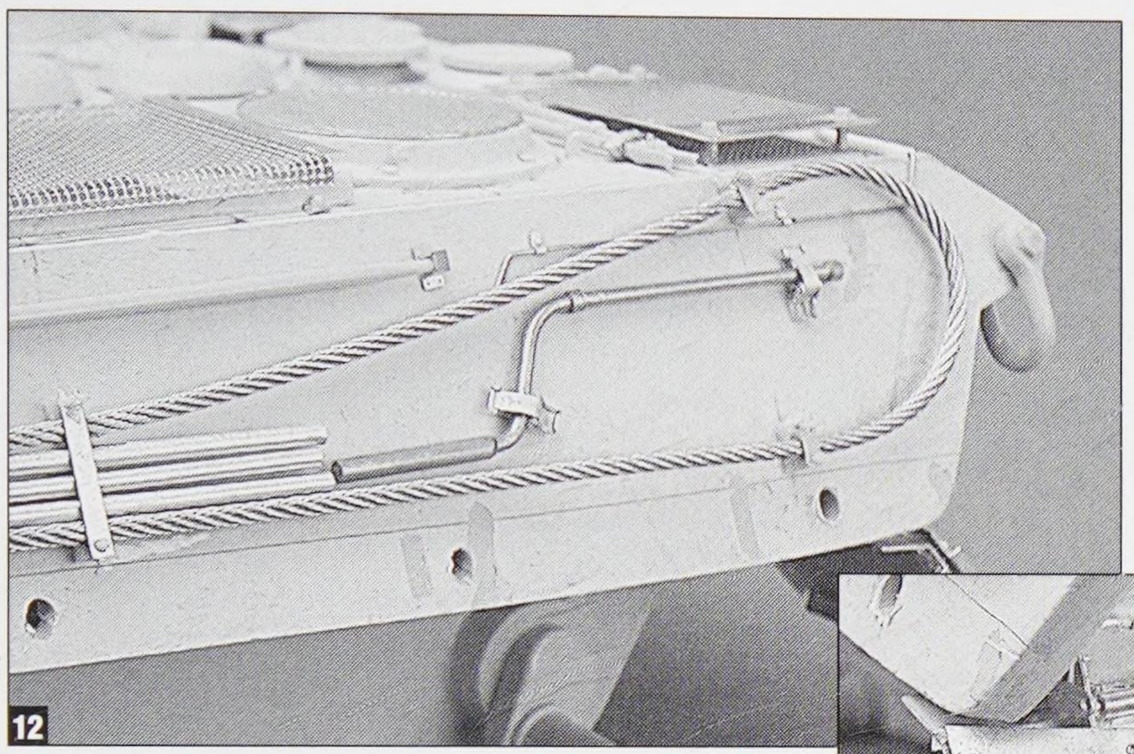
this panel missing, so I left mine off. Front and back views of the finished Aber parts are seen in **photos 3** and **4**. Grandt Line bolts were added along the outside rim, as shown in **photo 5**.

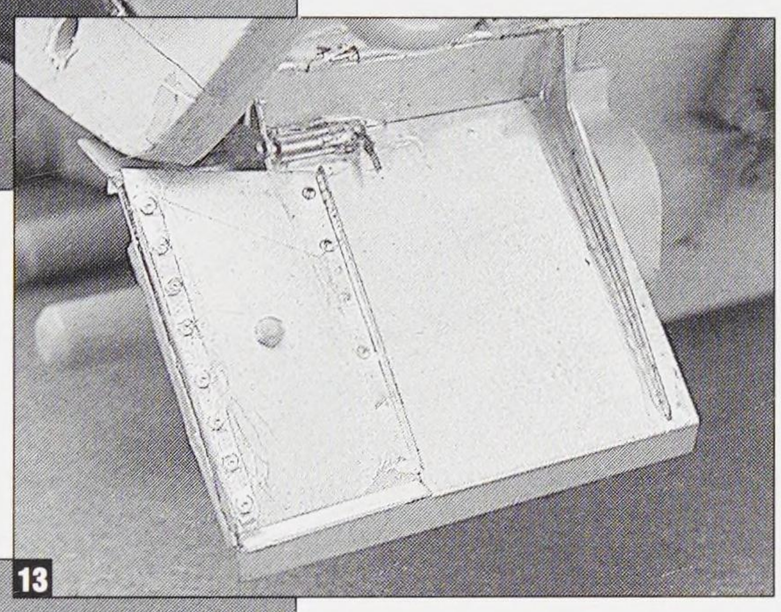
I had originally envisioned the last tank in this book to be a primer-painted, battle-scarred veteran of the final battles. As it turns out, most of these late tanks were virtually brand new when they were either abandoned or knocked out. So to go in the other direction, I added a bit of the original factory equipment in the form of the plug for the hull machine gun. The plug base was formed from styrene and the plug itself is



so I snagged one of the 18-tooth drive sprockets offered by Friulmodellismo. This is a gorgeous white metal, two-part casting. It requires only minimal clean up and the complete sprocket is seen in **photo 9**. A comparison of the kit part and the Friul part can be seen in **photo 10**.

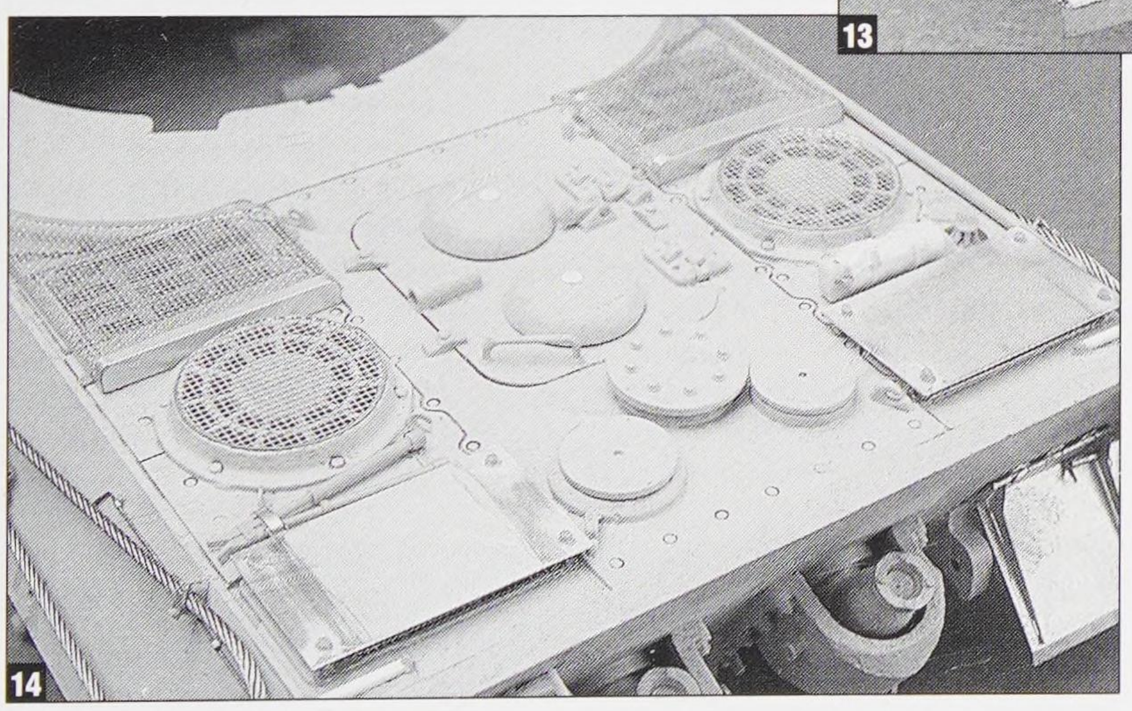
The engine deck splinter shields are part of the Aber set (once again!) and I added them according to the photo evidence. My reference photo showed them only installed on the rear grates, so that's what I did. I used short





brass tubing, while its attachment chain was taken from the Aber set. The plug and chain can be seen installed on the hull in **photo 6 & photo 7** is a close-up of the plug assembly. **Photo 8** shows the attachment bracket for the chain. This is, again, cleverly provided in the Aber set.

I'm clearly not as ambitious as my buddy Fish,



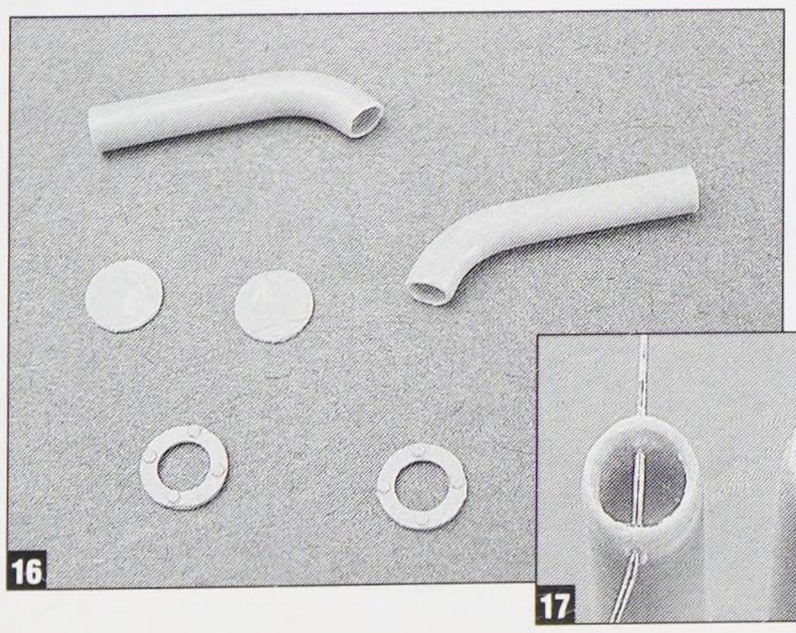
sections of brass tubing and Grandt Line nuts to complete them (**photo 11**).

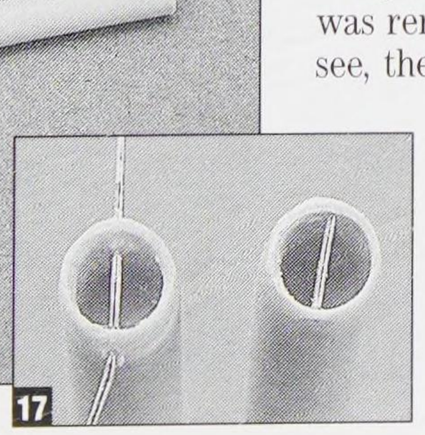
Just to be a show-off, I'm throwing in a shot of the completed tool stowage on the left side of the hull (**photo 12**). This shows everything in place, including my personal favorite, the new starter crank.

One thing that is neat about the Aber fenders is that they are fully detailed on the bottom. I didn't really get a chance to show this, but when I messed up the hinge on the left rear one, I had to show it flipped up (**photo 13**). I meant to do that. No, really.

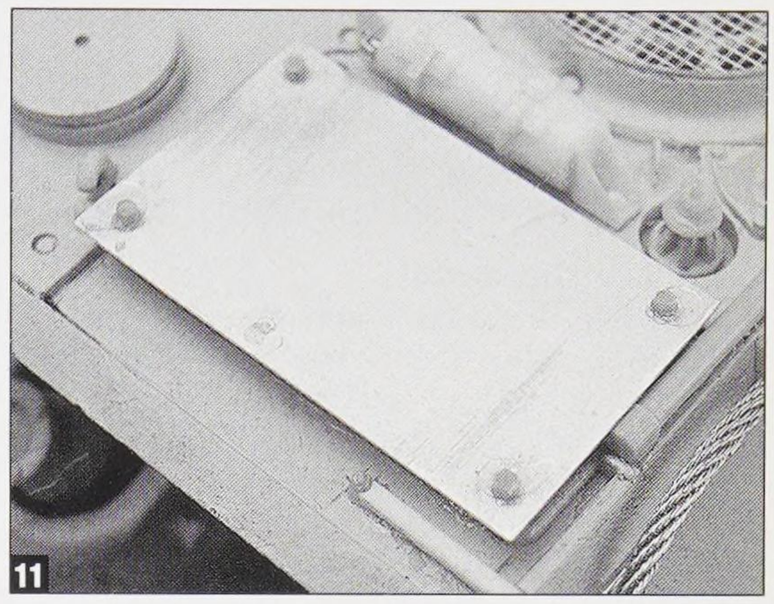
Photo 14 shows the completed rear deck. One thing I never figured out was how the wire cutter was removed with the splinter plate in place. You see, the lever for its clasp bumps into the shield. Maybe you just need 1/35th-scale hands (I'm working on it).

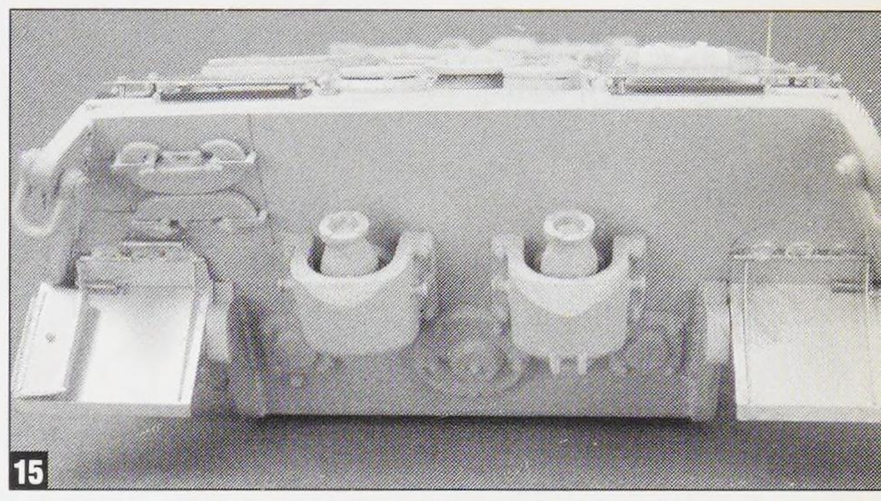
The completed rear hull is displayed in **photo 15**. There's not too much to tell here in comparison to the previous model. The jack block was eliminated in late November, so it ends up looking pretty boring.





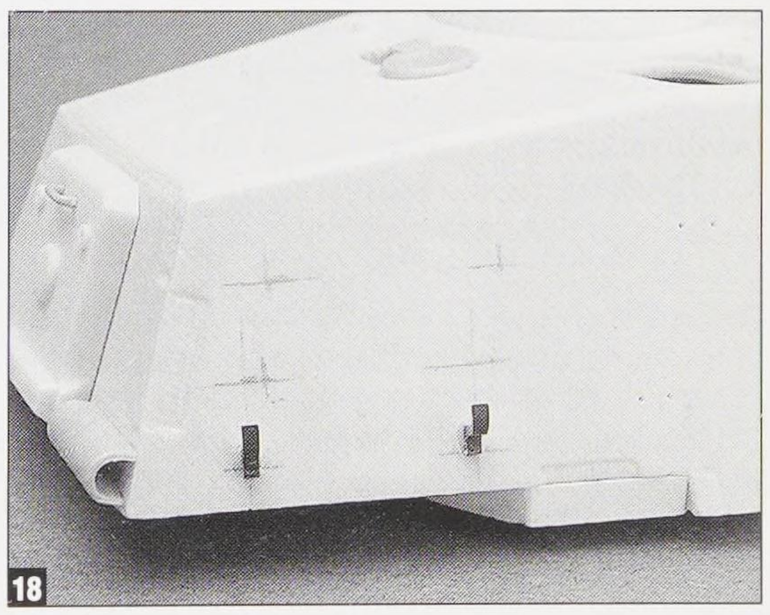
In order to keep the exhaust stacks off the model for painting and weathering, some modifications were necessary to the kit parts. The stacks are provided in the kit as part the exhaust port base. This part slips through a riveted ring to complete the subassembly. I removed the stack from its base and separated the disk, mated it to the ring and reinstalled it on the exhaust. This frees up the stack to be worked

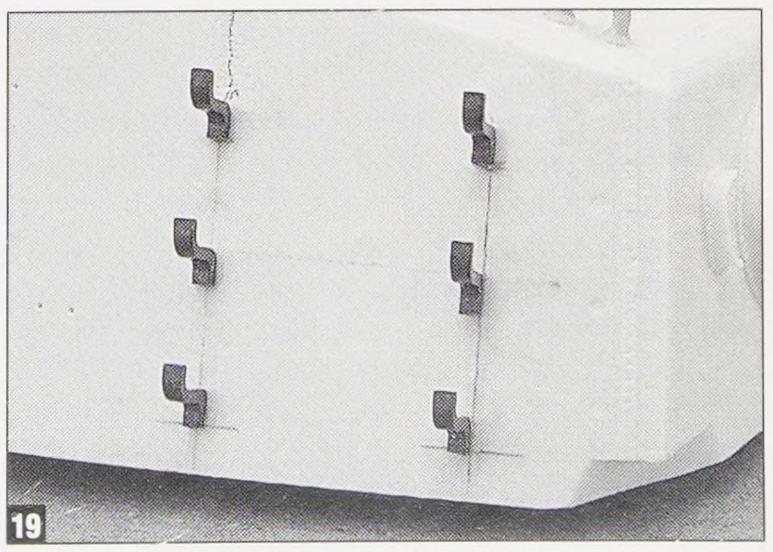


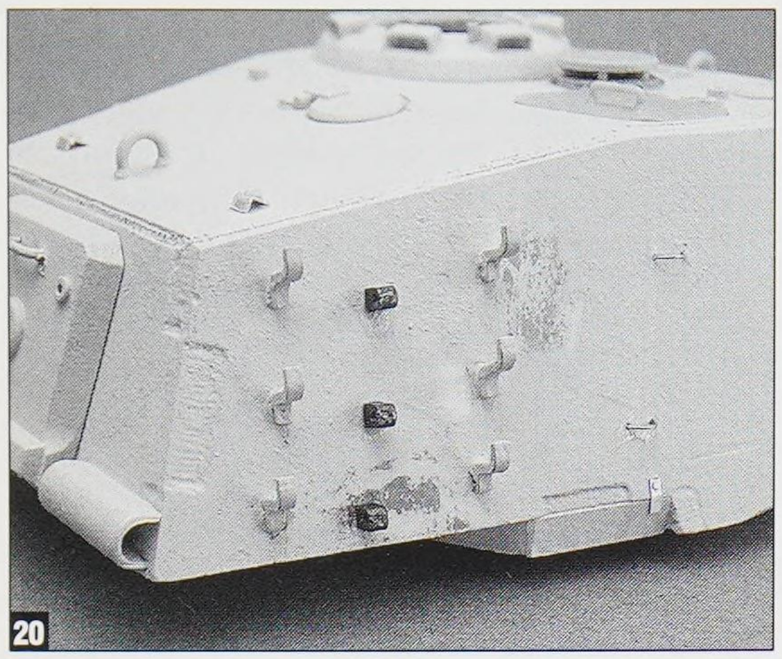


on separately. All this can be seen in **photo 16**.

To keep bad guys from sticking bad things down the stacks, safety wires were welded in the ends. Using one of the smallest bits I had, I ran the pin



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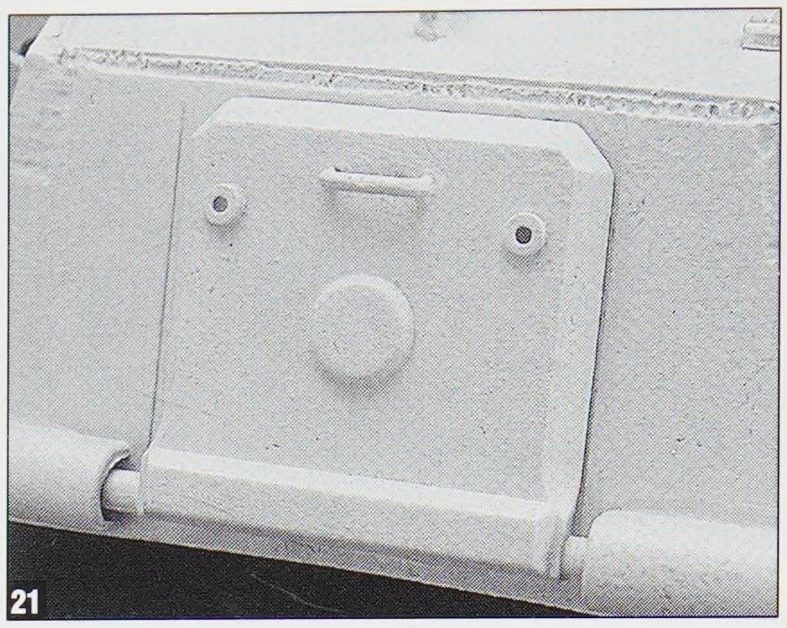
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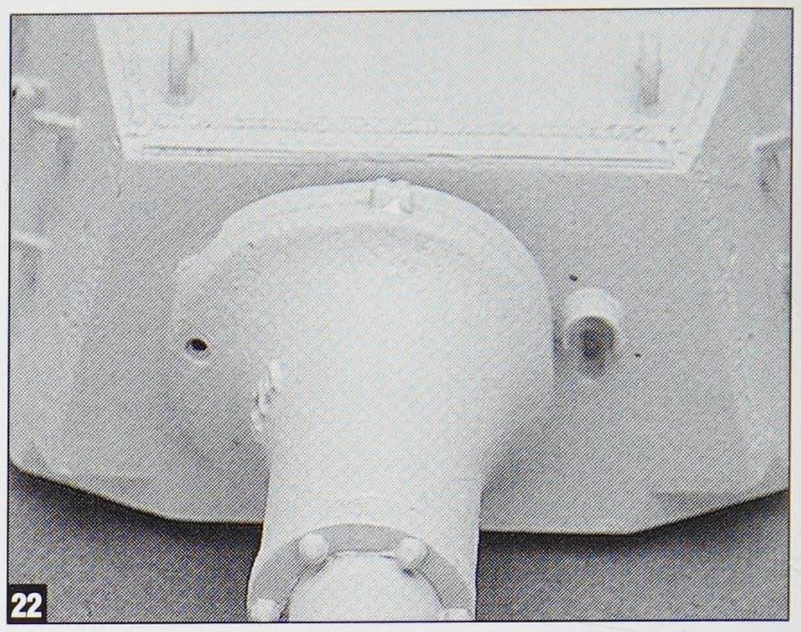
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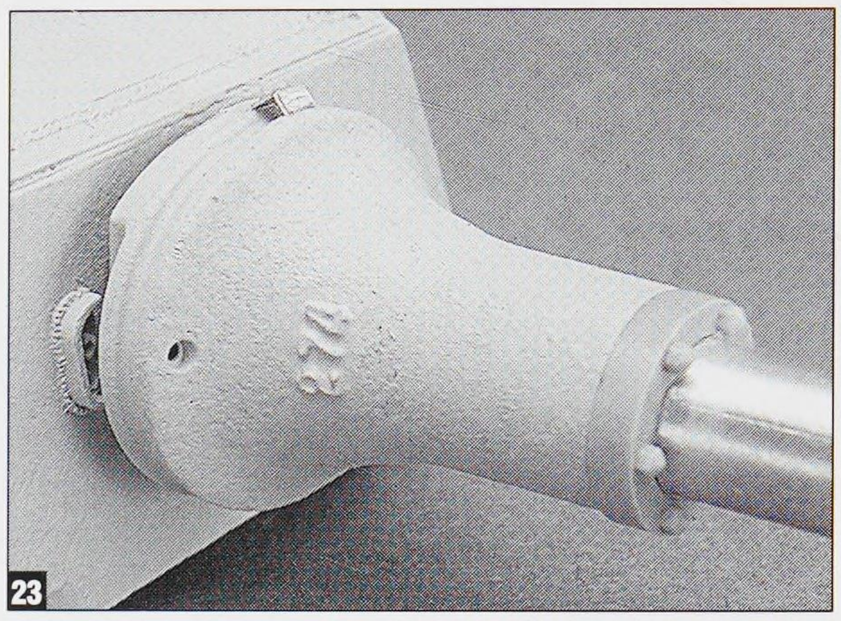
vise right through the stack ends and added brass wire. This was then trimmed flush with nippers. I had previously bored out the ends of the stacks to reduce the thickness of the tube walls (**photo 17**).

Totally turret, dude!

As stated, the CMD turret requires little modification to backdate it. But that never stopped me! For some reason that I can't recall, I decided to relay out all the track hanging hooks for the turret. This is actually necessary for the forward hooks, once the molded-on range finder is removed. The hooks are staggered on the way up the side of the turret. I have marked out the positions in pencil and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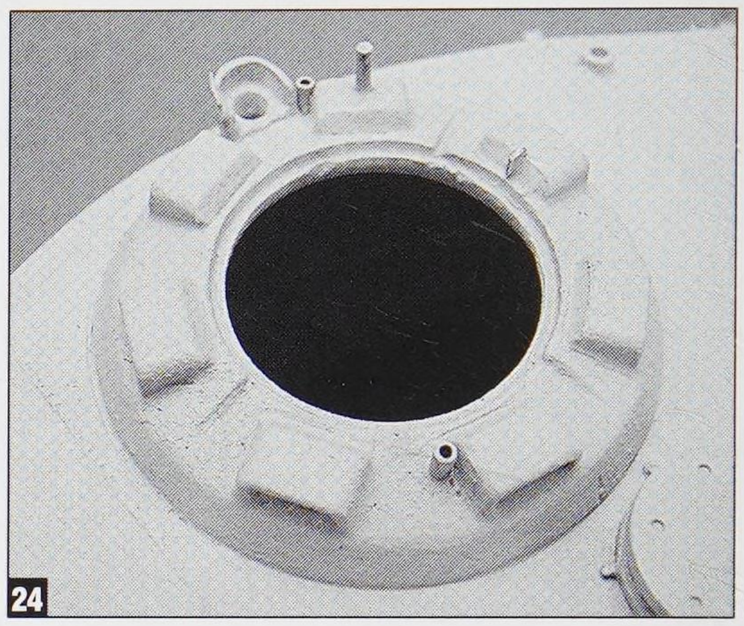
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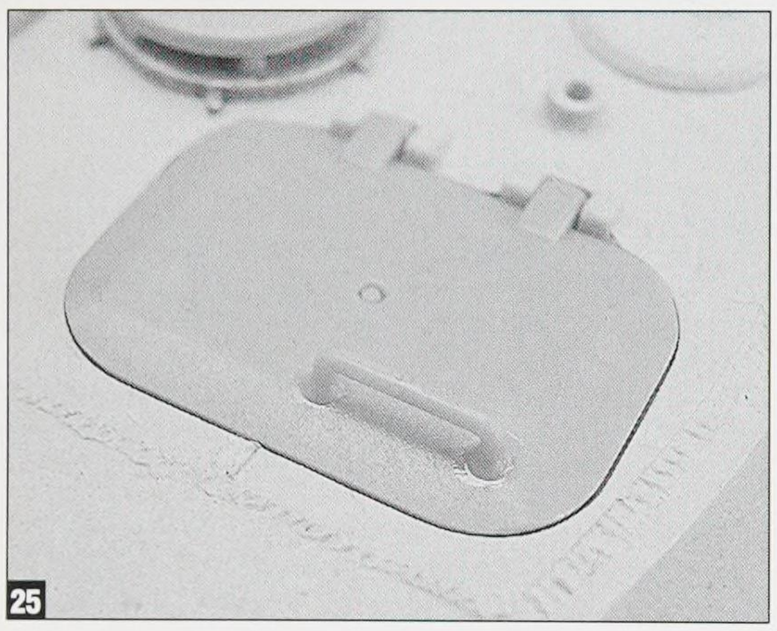
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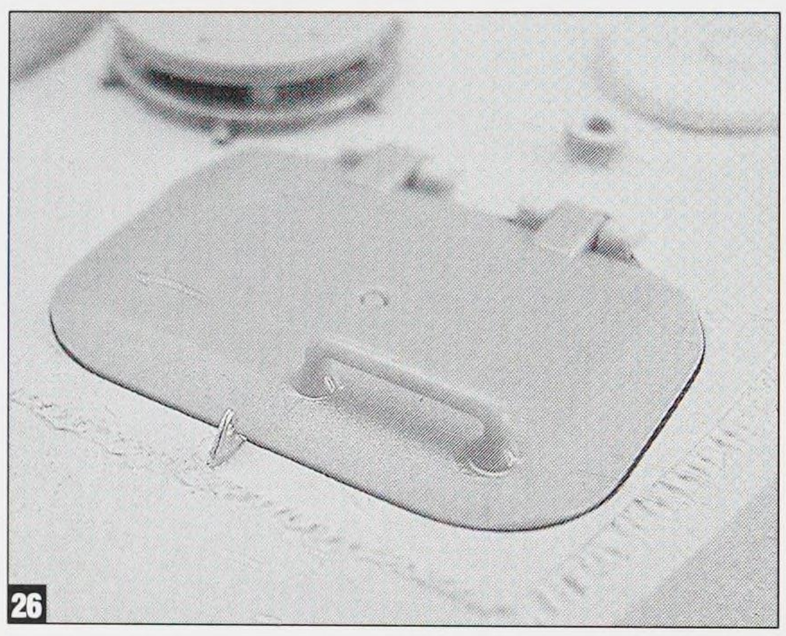
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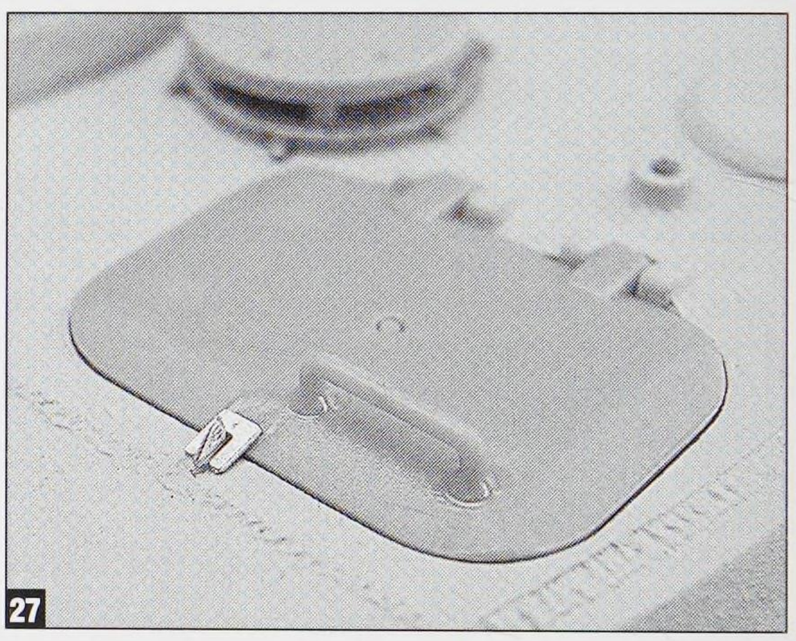

27

added two of the hooks in **photo 18**. The hooks are from the kit. Keeping a track link nearby was essential for judging the spacing between the hooks. By the way, Friulmodellismo is currently the only manufacturer of these late, single links.

Photo 19 shows the placement of the front hooks. I ran these up on a straight line, hoping that the angle of the hull would give the illusion of staggering. It sort of does. To be honest, I wasn't quite sure of the actual design here, so I took my best guess.

Photo 20 depicts the addition of the track pin holders. I placed a link on the hangers first, then glued the holder within the appropriate space in the link.

The rear hatch with the mystery circles is available as an aftermarket item from Artisan Mori. This part is installed on the CMD turret in **photo 21**.

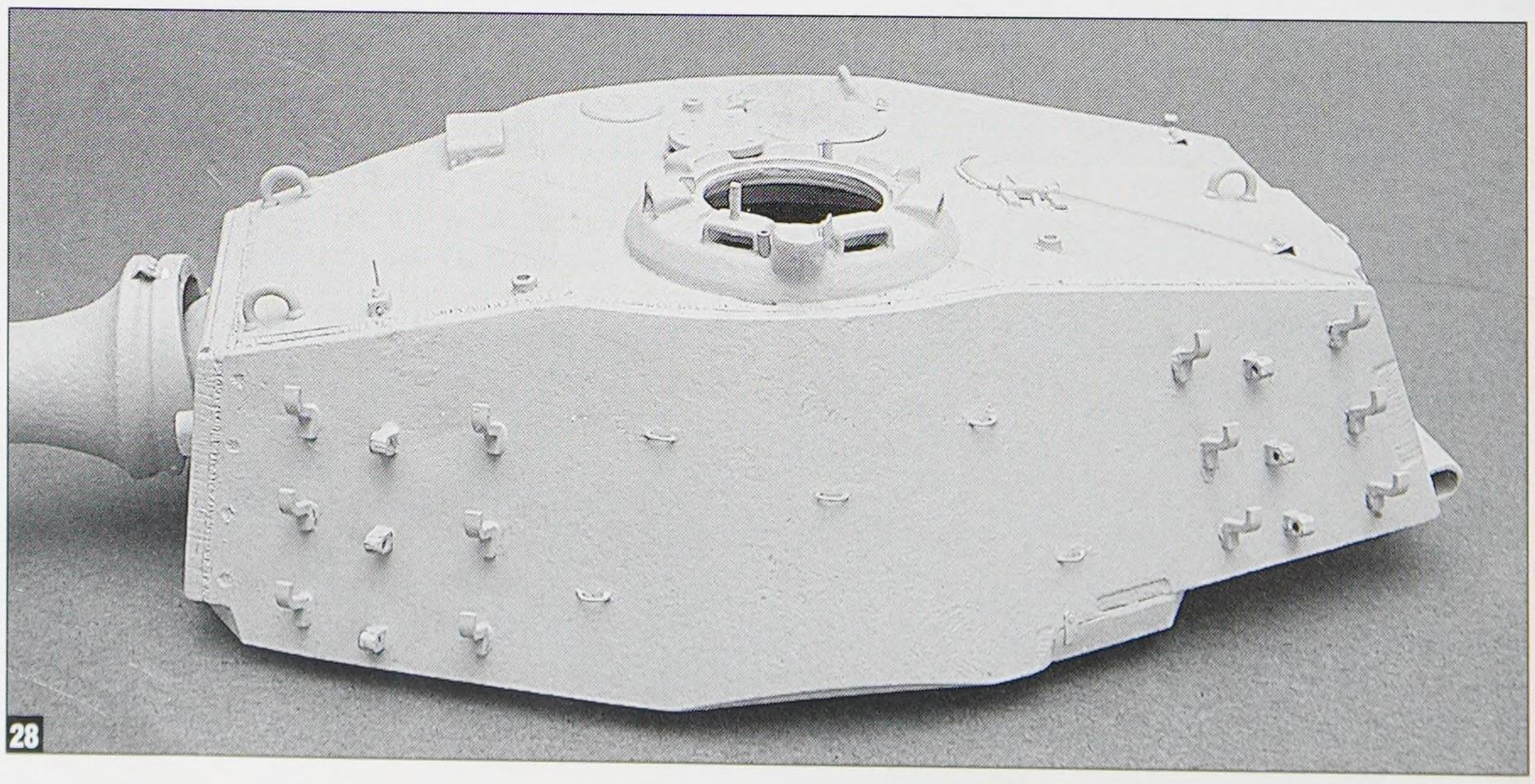
Another one of the neato features of the CMD turret is seen in **photo 22**, the sighting aperture rain guard. This is actually a September modification, but due to a backlog of completed turrets, it didn't see the light of day until January 1945.

To render the smooth mantlet seen on later turrets (and occasionally on earlier tanks), I used the only new part provided in kit 35252, the gun mantlet. I added casting numbers to the part and heavily textured it as seen in **photo 23**.

The CMD cupola reflects the minor mods made during March production. There's no longer a weld bead around the base of the cupola because it was bolted on and there is also no provision for the MG ring mount. **Photo 24** provides a peek. I went ahead and added the sockets for the rain shield and the post for the MG, as well as the small hatch stop. All of these things are appropriate for this version.

This turret utilizes the final version 40mm loader's hatch and this has been installed in **photo 25**. I haven't mentioned it to this point, but the best method for adding the small hatch locks (you know, to me) is as follows. First, the area to receive the male portion of the lock is scored, as shown in photo 25. Then, the male portion is added, as shown in **photo 26**. This then allows the precise centering of the female portion, as shown on **photo 27**. Adding the female portion first almost always results in the parts being off center.

The last shot of the turret (**photo 28**) shows it completely primed with all the various gear in place. The wire loops on the side were added with brass wire, using the dimples present on the CMD casting.


28

Tiger Resources

O.K. Here's all the stuff. This is everything I could uncover and a few things that I've had laying around for a while. I think I've got just about everything (but then again, I'm sure there is something out there that I missed). I should state that I did eliminate much of the older, crappy stuff. These are things that were made for the older Tamiya kits, or have just been gone for too long. Most of what I have listed is still out there in one form or another. The internet makes all this possible. It seems that E-Bay is the world's biggest hobby closet. Use the code key to figure out what each item is and what it's made of. Everything is listed alphabetically and then in numerical order within each list. A few items contain a "D," either where the price should be, or in addition to the price. This means that the item is discontinued, but not necessarily unavailable. The listed cost is the last known retail price.

The availability and prices are the best that I could establish and are good as of the end of 2003. Also bear in mind that this is not a catalogue, just a guide to what is out there. Check out the list of sources (or your local shop) at the end for where to start your search.

Aber

AirConnection
Box 21227
R.P.O. Meadowvale
Mississauga, ONT L5N 6A2
Canada
Tel: (905) 785-0016
Fax: (905) 785-0582
sale@airconnection.on.ca
info@airconnection.on.ca
www.airconnection.on.ca

40-060 Katowice ul.
Fliegera 8/6
Poland
48-32-51-9501

I like these guys and I always have. I've listed the Polish address just to give props to the owner, but the North American conduit for these products is AirConnection in Canada. They import it lavishly, so it's always possible to find it at your local hobby shop or mail order outlet. Aber was the first to do real "high tech" sets for the Tigers. All of their sets are highly useful and definitely rate very high on the "geek-o-meter." Some of the parts are very small and a few others border on the insane (see their multi-fret mini set for the early Tiger I). I will say this: no matter what the part, or how hard it is to put together, the results are always worth it.

35 A10 **Front and back mudguards for Tiger I** ..... $12.99 E/D
For Tigers built after January 1942. Designed for the Tamiya kit. Includes all hardware, hinges and jig. Does not include side panels.

35 A11 **Side fenders and exhaust cover for Tiger I** ..... $16.99 E/D
"Africa Corps" version. Represents the unit made modifications seen on Tigers of the s.PzAbt. 501 in Tunisia. Includes early front mudguards and slotted exhaust covers.

35 A12 **Side fenders and exhaust covers for Tiger I Ausf.E.** ..... $16.99 E/D
Use with 35 A10 to create a full set. For Tigers built after January 1942. Also includes parts for escape hatch and S-Mine launchers. Designed for Tamiya kit.

35 A17 **Fenders for Ferdinand/Elefant and VK-4501 (Tiger-Ferdinand)** ..... $14.99 E/D
Designed for the Italeri kits, but may contain some useful parts for your Tiger P.

35 A40 **Side skirts for King Tiger** ..... $19.99 E/D
Set to create skirt panels for any of the new Tamiya kits. Side panels only. Also see 35 A42.

35 A42 **Fenders for King Tiger & Jagdtiger** ..... $12.99 E/D
Use with 35 A40 to create a full set. Front and rear fenders only. Includes all hardware and hinges. The only source that I know of for the very late style fenders for March '45 Tiger II's.

35 G03 **Tiger I Grill Set** ..... $8.99 E/D
Back deck screens that feature the spooky "woven" pattern.

35 G06 **King Tiger & Jagdtiger Grill Set** ..... $8.99 E/D
Back deck screens that feature the spooky "woven" pattern. This set only includes the smaller vent screens. For the longer, dimensional screens, see 35040.

35 K01 **Pz.Kpfw.VI,Tiger I, Ausf.E (Sd.Kfz.181) Early Version** ..... $64.99 E/D
For any of the early Tamiya Tigers except the "Afrika" version. Similar to the 1/16th scale version. Five sheets of brass, cable, rod, wood and a Jordi Rubio barrel set. Includes extra stuff like the stowage bin, front and back fenders, etc.

35005 **Tiger-Ferdinand** ..... $16.99 E/D
For Italeri kit number 0278. Includes fender flaps. These do not fit the Dragon kits.

35014 **Tiger I Ausf H1** ..... $19.99 E/D
Includes all the earlier fittings for a Tamiya Tiger prior to mid-production. One big sheet of brass, plus deck screens. Some parts may also work with the Italeri kit (0293) or the Academy kit (1348).

35015 **Tiger I Ausf E** ..... $19.99 E/D
Includes all the later fittings for a Tamiya Tiger past mid-production. One big sheet of brass, plus deck screens. Some parts may also work with the Italeri kit (0293) or the Academy kit (1348).

35040 **King Tiger Pz Kpfw VI Ausf B Tiger II** ..... $22.99 E/D
Designed to cover all of the Tamiya kits: 35164, 35169 or 35252. One large sheet, plus deck screens. Includes both long and short rear deck screens and a separate sheet with the vent screens.

Academy Hobby Model Kits

Model Rectifier Corporation
80 Newfield Avenue
Edison, NJ 08837
732-225-2100
www.academyhobby.com
mrcsupport@modelrectifier.com
www.modelrectifier.com

Academy is actually a Korean company. I have listed their U.S. agent as a more convenient contact. However, the Korean website is quite nice and very comprehensive. Academy's claim to fame for this project is their three complete Tiger kits. These caused quite a stir when they were released due to the fact that two of them have complete interiors.

These items are good, sound kits and do not have some of the inherent problems that the Tamiya kits do. However, I feel that the detail, especially on the rear deck, is a little off. This is just my personal preference and I think they can still provide an enjoyable building experience.

1348 **Early Tiger I** ..... $55.00 P/K
Kit contains complete interior, I-to-I tracks, the whole shebang.

1364 **Tiger I Tracks** ..... $8.50 P/A
Separately packaged non-workable individual link-to-link tracks. Represents the early grooved cleat type.

1386 **Early Tiger I** ..... $33.00 P/K
Includes Feiffel air cleaners. No interior.

1387 **Mid Tiger I w/Interior** ..... $55.00 P/K
Mid production version with complete interior.

Accurate Armour

Units 15 & 16
Kingston Industrial Estate Port
Glasgow PA14 5DG Scotland
United Kingdom
44-1475-743746
www.accurate-armour.com.

AA has always had a penchant for the unusual and this has led them to the nifty looking Tiger prototypes below. AA kits are good, with large resin castings, small white metal bits and photo-etch parts.

C035 **Befehlspanzer Tiger(P)** ..... £39.50 R/C
Creates the unique command tank vehicle produced for the commander of s.PzJgAbt 653. New hull top, Tiger turret, etched brass deck screens and fittings. Metal tools, woven brass towing cables and a three color decal set are also included.

K21H **German Porsche Tiger P2 (8.8cm L/71)** ..... £69.99 R/K
Complete resin kit. The well known "Porsche" turret for the King Tiger was actually designed for the sister version of this vehicle, although it never progressed beyond the mock-up stage. Features opening turret and deck hatches, pistol ports, etched brass mesh deck grilles, metal tools and woven brass towing hawsers.

K21V **German Porsche Tiger P2 (8.8cm L/71)** ..... £69.99 R/K
The well known "Porsche" turret for the King Tiger was actually designed for this vehicle. Three prototypes were produced and one is rumored to have seen action with "Kampfgruppe Kummersdorf" in the closing weeks of WW2. The VK4502(P) featured a front mounted turret (Turm Vorne) mounted on a well sloped hull using VK4501(P) suspension. Full resin kit features opening turret hatches, and pistol ports, etched brass mesh deck grilles, metal tools and woven brass towing hawsers.

T01 **PzKpfw VI Tiger-1 Transport** ..... £12.00 R/A
Trakpax set for narrow rail transport version.

T39 **Tiger-II/Jagdtiger Transport** ..... £12.00 R/A
Trakpax set for German heavy tanks. Narrow tracks for Tamiya or Dragon kits.

Archer

PO Box 1277
Youngsville, NC 27596-1277
USA
www.archertransfers.com

Archer actually started out doing aircraft transfers, but really hit their stride when they abandoned that silly concept for armor. The quality is terriffic; the colors are vivid and accurate, the transfers rub off with ease and everything they do is unconditionally guaranteed. This is definitely some of the best our little hobby has to offer.

I worked quite closely with them to produce their "Tiger Mix" series and many of these markings appear in the book. A much more complete explanation appears in each color section. Admittedly, I was rather pressed for time when the sheets were released, so I hope the more verbose descriptions in this book will help.

35099B **SS s.PzAbt. 501 Turret Numbers** ..... $11.95 S/DT
Black with white outline, two different sizes.

35099R **SS s.PzAbt. 501 Turret Numbers** ..... $11.95 S/DT
Red with white outline, two different sizes.

35100 **SS s.PzAbt. 501 Turret Numbers** ..... $11.95 S/DT
Blue with yellow outline, two different sizes, plus a few solid yellow numbers in two sizes.

35111 **s.PzAbt. 501 Turret Numbers** ..... $6.95 S/DT
Large white outline numbers of the type seen on Tiger I's upon their arrival in Tunisia, 1942. All numbers are .62 inch / 16mm tall.

35112 **s.PzAbt. 501 Turret Numbers** ..... $11.95 S/DT
Large red with white outline numbers of the type seen on Tiger I's in Africa after the unit's integration into Panzer Regiment 7, 1943.

35113B **s.PzAbt. 501 Turret Numbers (Russia 1943-44)** ..... $3.95 S/DT
8mm tall black, outline numbers.

35113BR **s.PzAbt. 501 Turret Numbers (Russia 1943-44)** ..... $3.95 S/DT
8mm tall brown, outline numbers.

35114 **s.PzAbt. 501 Turret Numbers** ..... $7.95 S/DT
11mm tall red and white numbers.

35134 **Tiger Battalion Insignia** ..... $9.95 S/DT
Multi-colored divisional "logos" for s.PzAbt. 506.

35135 **Tiger Battalion Insignia** ..... $12.95 S/DT
Multi-colored divisional "logos" for s.PzAbt. 503, 505, and 509.

35136 **Tiger Battalion Insignia** ..... $6.95 S/DT
Multi-colored divisional "logos" for s.PzAbt. 501, 502, 505, 507, and 510.

35155 **Tiger Mix #1** ..... $11.95 S/DT
Builds two vehicles: Tiger II late turret style, vehicle 332 of SS Pz. 501, December, 1944 and Kursk Tiger I later portion of early production, 8./SS Panzer Regiment 2, vehicle number S33 of Das Reich, summer 1943.

35156 **Tiger Mix #2** ..... $6.95 S/DT
Builds three vehicles: "Leningrad" Tiger I, first production model of the s.PzAbt. 502, September, 1942; Normandy Tiger I, Michael Wittman's last ride, mid production, command vehicle 007 of LAH and Kursk Tiger I Army, mid portion of early production, s.PzAbt. 503, summer of 1943.

35157 **Tiger Mix #3** ..... $11.95 S/DT
Builds four vehicles: Tiger I Late production, s.PzAbt. 505; Tiger II Early turret s.PzAbt. 503, summer 1944; Tiger II prototype and Tunisian Tiger I Early production, s.PzAbt. 501, spring of 1943.

35158 **Tiger Mix #4** ..... $6.95 S/DT
Builds two vehicles: Tiger I rebuilt hybrid of task force "Fuhrman," spring 1945 and Kursk Tiger (P) Porsche Tiger I prototype converted to command vehicle of Schwere Panzerjäger 653.

35167 **Tiger Pack** ..... $29.95 S/DT
Includes 35155, 35156, 35157 and 35158 at a reduced price.

Armo Jadar-Model

Zielna Street 8/103
00-108 Warsaw
Poland
Tel/Fax: (00 48 22) 620 63 31
www.jadar.com.pl

Armo is sort of a subsidiary of an extensive hobby shop called Jadar. Armo's reputation is firmly grounded in its wonderfully milled metal products. They have a small selection of barrels and other smaller items and it's growing all the time.

35736 **King Tiger w/Henschel turret** ..... $12.99 M/D
Production version, two-section barrel. Includes machined muzzle.

35737 **King Tiger w/Porsche turret** ..... $12.99 M/D
Two-section barrel. Includes integral milled base collar and machined muzzle.

35738 **King Tiger w/Porsche turret** ..... $12.99 M/D
Early version with mono-bloc barrel. Includes integral milled base collar and machined muzzle.

35739 **88mm KwK 36 L/56 for Tiger I.** ..... $12.99 M/D
Machined in three separate pieces, including machined muzzle.

35742 **88mm Ammo for King Tiger.** ..... $8.99 M/D
Twelve turned brass parts, four each of HE and AP, plus four shell casings.

35743 **88mm Ammo for Tiger I** ..... $8.99 M/D
Twelve turned brass parts, four each of HE and AP, plus four shell casings.

Artisan Mori

Artisan Mori is just a Japanese guy who likes to make cool stuff in resin. There's no way to contact him directly, but the products can be easily obtained in the west. So far, it's just a few Tiger items.

MGP01 **Tiger I Ausf E. Gepack Kasten** ..... $13.00 R/D
Single piece casting of the unique stowage bin used by the sPz.Abt. 503. Cool.

MGP02 **Tiger II last mantlet & rear hatch** ..... $15.50 R/D
Two piece set that includes a rear turret hatch with the mysterious raised "dots" and a smooth, cast mantlet with casting numbers. The mantlet is a bit narrow towards its end.

Atak Model

I don't know much about these guys. I've seen the stuff and it is well done, albeit with not quite the fidelity of the Cavalier sets. It is available through a few shops and directly from Panzer Shop (see listing, below).

35002 **King Tiger (production turret)** ..... $20.90 R/D
Ultra thin resin sheets for the Tamiya kit.

35003 **King Tiger (Porsche turret)** ..... $27.00 R/D
Ultra thin resin sheets for the Tamiya kits. Includes complete turret casting.

35005 **Tiger I.** ..... $20.90 R/D
Ultra thin resin sheets for the Tamiya kits. Includes complete resin mantlet and front armor.

35013 **SdKfz.181 Tiger I middle production** ..... $20.90 R/D
Designed for the Academy kits.

Barrel Depot

Falcon Supplies Co.
201 Chit Lee Commercial Building
30 Shaukiwan Road
Hong Kong
Tel: (852) 2886 2290
Fax: (852) 2886 3001
falcon@hk-hobby.com.hk
www.hk-hobby.com.hk

Barrel depot is the in-house line of Falcon Supplies, a well-known Hong Kong-based hobby shop.

BD35010 **Kwk36L/56 88mm gun (Tiger 1)** ..... N/A M/D
Turned aluminum barrel with muzzle brake.

Blast

5 rue Crozatier
75012 Paris
France
Tel: 33 (0) 1 43 46 00 66
Fax: 33 (0) 1 43 46 00 50
info@blast-models.com
www.blast-models.com

Blast is a Paris-based resin producer with only one Tiger item to date. Blast has a well-deserved reputation for quality.

35030K **Asymmetrical turret for Tiger I** ..... $35.00 R/D
Super deluxe version of a March to June 1944 production turret. Complete kit to be used on Tamiya, Academy or Italeri Tiger I's. Includes MG for gun shield, casting numbers, positionable track link holders, new escape hatch with interior detail and three part mechanism and interior detail on the commander's cupola with accurate two-part hatch. Also includes new gunner's hatch with separate x-closing mechanism and optional cover for turret fume extractor.

Cavalier

These dudes are a little tough to track down. I had heard that they were no longer around, but the products are still abundant. Their sets are quite well done. I will say that all of the Zimmerit products are designed for a stock kit. And, as such, they may not be the best solution if you are planning a lot of exterior detailing. However, that's certainly not everyone, so do give them a closer look. Also, some of the patterns are offered as solid sheets.

CL 101 **Tiger I Late Tamiya** ..... $21.50 R/D
Ultra thin sheets of resin with Zimmerit pattern. Broken down by individual panels. Includes many of the smaller kit parts conveniently molded-in. Separate gun mantlet, escape hatch and tool for touch ups. Designed to fit the Tamiya kit.

CL 107 **King Tiger - Henschel** ..... $21.50 R/D
Ultra thin sheets of resin with Zimmerit pattern. Broken down by individual panels. Includes many of the smaller kit parts conveniently molded-in. Separate gun mantlet, rear turret hatch and tool for touch ups. Designed to fit the Tamiya kits.

CL 108 **King Tiger - Porsche** ..... $21.50 R/D
Ultra thin sheets of resin with Zimmerit pattern. Broken down by individual panels. Includes many of the smaller kit parts conveniently molded-in. Separate gun mantlet, rear turret hatch and tool for touch ups. Designed to fit the Tamiya kit.

Clipper Model

Tsutsujino 4-31-103
Sayama City
Saitama 350-1326
Japan

O.K., let's say it up front: This stuff is very difficult to find. However, it is worth the trouble. Much of it is unique and the MG mounts are really something. Also, see the Rainbow Ten listing later in this section. Prices are in Japanese Yen.

621 **MG 34 AA mount and barrel set** ..... ¥900 W/D
Awesome white metal parts to create base MG mount for the turret of your later Tiger I or Tiger II. Still requires a few parts to bring it home, but it really saves a ton of effort.

625 **Tiger I Gepak Kasten** ..... ¥1,000 R/D
Single piece resin casting of very early stowage box used by the sPz.Abt. 502.

691 **Tiger II Road Wheel Details** ..... ¥1,000 W/D
Wheel hubs for Tiger II. One set of white metal hubs.

696 **Submersible device cap** ..... ¥600 W/D
Two white metal detail parts to create the large cap seen on the back deck of early Tiger II's (and Panthers).

B002 **KwK36 88mm L56** ..... ¥900 M/D
Turned aluminum barrel with resin muzzle brake for the Tiger I.

B003 **KwK43/2 88mm L71** ..... ¥900 MD
Turned aluminum monobloc barrel with resin muzzle brake for the early Tiger II.

B004 **KwK43/3 88mm L71** ..... ¥900 MD
Turned aluminum barrel with resin muzzle brake for the production Tiger II.

Chesapeake Model Designs

P.O. Box 393
Monkton MD 21111
USA
Fax: 410-357-5496
www.chesapeakemodels.com

CMD is one of the premier U.S. manufacturers of resin kits and accessories. The quality is as good as it gets.

CMD-27 **Tiger II - Proposed July 1945 Conversion** ..... $78.00 M/C
Elaborate and beautifully cast resin turret and lower hull representing the proposed 1945 design changes to the Tiger II. Although this version was never produced, the turret within this set is perfect for representing a final production version after removing the range finders. Includes Friul ATL-37 single link tracks and 9-tooth drive sprockets.

CMD-27A **Tiger II - Proposed July 1945 Conversion** ..... $48.00 R/C
Identical to CMD-27, but without the tracks and drive sprockets.

COMO Productions

www.comomodels.com
info@comomodels.com

This is a Hong Kong-based company that produces turned metal barrels. All the listed barrels are solid milled pieces that have an integral muzzle brake. They are currently shopping for a U.S. distributor.

MB001 **Tiger I early version** ..... $5.50 W/A
MB002 **Tiger I late version** ..... $5.50 W/A
MB003 **King Tiger (H)/Jagdpanther mid/late version** ..... $ 5.50 W/A
MB006 **King Tiger (P)/Jagdpanther early version** ..... $5.50 W/A

Cromwell Models

6/6 The Quadrangle,
57 Ruchill Street,
Glasgow G20 9PX,
Scotland,
United Kingdom
Tel. +44 (0)141 948 0255
Fax +44 (0)141 948 0236
cromwellmodels@yahoo.co.uk
www.xs4all.nl/~cromwell

Cromwell is another lover of the unusual and their small selection of Tiger related items reflect this. Check out the Vorpanzer, it's one of only two sets out there.

CA125 **Vorpanzer nose armor set** ..... £7.50 R/C
Includes front skirt, new exhausts, blank front hatches and new drive sprockets.

CA19 **Late Tiger II Conversion** ..... £15.50 R/C
Tracks, sprocket, infra-red gear, hooks and D rings to convert Tamiya King Tiger kit 35164.

CA22 **Tiger II Engine Pack** ..... £2.50 R/A
German King Tiger tank engine assembly. For any King Tiger kit.

CA37 **Ferdinand Tiger(P) Zimmerit** ..... £19.50 R/D
Conversion kit for Italeri Tiger(P) kit 0278. Includes sides, rear and turret with Zimmerit pattern.

CA44 **Ram Tiger** ..... £23.50 R/C
Conversion for Italeri Tiger(P) 0278 to make prototype ram tank.

Decal Star

151-0066
3-17-15 Nisihara
Shibuya-Ku, Tokyo
Japan

Another hard to find manufacturer. The listed items are great. Prices are in Yen.

D-002A **Tiger I Initial Production #112 Decal** ..... ¥800 S/DT
Small sheet of markings for the s.PzAbt. 501 in Tunisia. Tactical number 112.

D-002B **Tiger I Initial Production #121 Decal** ..... ¥800 S/DT
Small sheet of markings for the s.PzAbt. 501 in Tunisia. Tactical number 121.

D-002C **Tiger I Initial Production #142 Decal** ..... ¥800 S/DT
Small sheet of markings for the s.PzAbt. 501 in Tunisia. Tactical number 142.

D-009 **Tiger I s.PzAbt. 508 Decal** ..... ¥700 S/DT
Small sheet of markings to create an early production Tiger I from the s.PzAbt. 508.

D-031 **Tiger 1 & 2 Muzzle Brake Cover Early Type** ..... ¥400 R/D
Beautifully sculpted cover and strap representing the larger muzzle brake seen on the Tiger I and the early Tiger II.

D-032 **Tiger 1 & 2 Muzzle Brake Cover Late Type** ..... ¥400 R/D
Beautifully sculpted cover and strap representing the smaller muzzle brake seen on the late Tiger I and Tiger II.

D-033 **Tiger I Bow Machine Gun Mount Dust** ..... ¥600 R/D
Your choice of three different MG covers. Gorgeous!

Eduard Model Accessories spol. s r.o.

Obrnice 170
43521 Obrnice
Czech Republic
Tel.: +420 476118668
Fax: +420 476118171
department@eduard.cz.
info@eduard.cz.
www.eduard.cz

One of the first truly prolific manufacturers of photo-etched brass. The sheets tend to be somewhat simpler in execution than others, but they have continually refined their products over the years and their "Zoom" series is a sound concept. All of the sets are now packaged with elaborate, color instructions and their web site is very comprehensive.

34005 **Tiger I** ..... $11.99 M/A
Turned aluminum barrel with integral muzzle brake.

34017 **Tiger II** ..... $11.99 M/A
Turned aluminum barrel with integral muzzle brake.

35131 **Tiger I (Mid Prod.)** ..... $19.99 E/D
For Tamiya 35202 (Otto Carius), or 35194.

35133 **Tiger I (Minicraft) Exterior** ..... $19.99 E/D
For Academy kits 1348, 1386 and 1387. Two sheets.

35134 **Tiger I (Minicraft) Interior** ..... $14.99 E/D
For Academy 1348. Clear parts.

35219 **Bergetiger** ..... $19.99 E/D
For Italeri kit 0362 (the one that is actually a mine-laying tank—shhh... don't tell). Three sheets.

35301 **Tiger I early** ..... $22.99 E/D
Suitable for a Tamiya Tiger built after January 1942.

35305 **Tiger I Ausf. E/H** ..... $22.99 E/D
For the Italeri Tiger I kit (0286).

35376 **King Tiger Porsche turret** ..... $19.99 E/D
For the Tamiya kit 35169. Two sheets.

35399 **King Tiger Henschel turret** ..... $19.99 E/D
For Tamiya kit 35164. Two sheets.

35400 **King Tiger Fenders** ..... $19.99 E/D
Full set of front, side and rear fenders. For any Tamiya King Tiger.

35404 **Zimmerit King Tiger** ..... $14.99 E/D
One large single sheet of textured metal, divided into panels. For the Tamiya Henschel turret.

35441 **Tiger I Late** ..... $22.99 E/D
For the Tamiya Tiger I late, 35146. Three sheets.

35442 **Zimmerit Tiger I Late** ..... $11.99 E/D
One large single sheet of textured metal, divided into panels. For the Tamiya Tiger I late, 35146.

35490 **Zimmerit SS Ab, 101 Tiger I** ..... $14.99 E/D
One large single sheet of textured metal, divided into panels, plus etched templates for tactical markings. For the Tamiya 35146, or 35194.

35498 **Tiger I Ausf. E exterior** ..... $24.99 E/D
For the early Tiger I Academy kit, 1348. Three sheets.

35500 **Tiger I Ausf. E interior** ..... $24.99 E/D
For the early Tiger I Academy kit, 1348. Three sheets.

35518 **Tiger I Mid. prod. Interior** ..... $24.99 E/D
For the mid-production Tiger I Academy kit, 1387. Three sheets, plus gauges.

35520 **Tiger I Mid. prod. Exterior** ..... $22.99 E/D
For the mid-production Tiger I Academy kit, 1387. Three sheets.

35521 **Zimmerit Tiger I Mid. prod.** ..... $19.99 E/D
One large sheet for the mid-production Tiger I Academy kit, 1387.

35564 **Zimmerit King Tiger Porsche turret** ..... $14.99 E/D
One large sheet for the Tamiya kit 35169.

TP001 **Tiger I** ..... $5.99 E/D
Zoom series of simplified sets. Deck screens only for the Academy kits.

TP003 **King Tiger** ..... $5.99 E/D
Zoom series of simplified sets. Deck screens only for the Tamiya kits.

TP004 **Tiger I** ..... $5.99 E/D
Zoom series of simplified sets. Deck screens only for the Tamiya kits.

XT055 **Tiger I Mid. Production** ..... $3.99 E/D
Express Mask vinyl self adhesive masks. Tactical numbers and crosses.

XT060 **King Tiger wheel mask** ..... $4.99 E/D
Express Mask vinyl self adhesive masks.

Elefant

Gen. R. Stefanika 12
750 02 Prerov
Czech Republic
www.elefantcorp.cz

These dudes make some terrific stuff, but the latest word is that they are no more. But, in our little hobby, everything old is new again, so maybe it will all pop up in a year or two under another name. This doesn't work out too well for me because I used a ton of it in this book. Oh well, you've been warned.

35030B **King Tiger (Henschel) Detail Set** ..... $22.95 M/D
For Tamiya kit. Complete etch details with screens, resin jack block, metal fire extinguisher and more.

35031B **King Tiger (Porsche) Detail Set** ..... $22.95 M/D
For Tamiya kit. Complete etch details with screens, resin jack block, metal fire extinguisher and more.

35070C **Side skirts for Tiger I, Afrika** ..... $12.95 E/D
Designed for use on the Tamiya Tiger I initial production kit, 35227.

35071C **Side skirts for Tiger I, Early** ..... $11.95 E/D
Designed for use on the Tamiya Tiger I "Frühe Producktion kit," 35216.

35072C **Side skirts for Tiger I** ..... $11.95 E/D
Designed for use on the Tamiya Tiger I kits 35194, 35202 and 35146.

35403 **Ammo Boxes** ..... $13.95 R/D
For any King Tiger, six pieces.

35448 **Engine Mesh for Tiger I** ..... $8.95 E/D
Designed for the Italeri kits.

35449 **Tiger I Engine Mesh** ..... $8.95 E/D
Four screens with separate frames for all Tamiya Tiger I kits.

35450 **Engine Mesh for Tiger I** ..... $8.95 E/D
Designed for the Academy kits.

35451 **Tiger II Engine Mesh** ..... $8.95 E/D
Two round and four rectangular screens with separate frames for all Tamiya Tiger II's.

35391 **88mm KwK 43 L/71 Barrel** ..... $6.95 W/D
Monobloc style barrel for Tamiya kit 35169. Includes white metal muzzle brake.

35392 **88mm KwK 43 L/71** ..... $8.95 W/D
Two-part style barrel for Tamiya kit 35169 or 35164. Includes white metal muzzle brake.

35393 **88mm KwK 36 L/56 Barrel** ..... $5.95 W/D
For any Tamiya Tiger I. Includes white metal muzzle brake and photo-etch.

35394 **88mm KwK 36 L/56 Barrel** ..... $5.95 W/D
For any Adademy Tiger I. Includes white metal muzzle brake and photo-etch.

35395 **88mm KwK 36 L/56 Barrel** ..... $5.95 W/D
For any Italeri Tiger I. Includes white metal muzzle brake and photo-etch.

35405 **Rauchgranatwerfer Nbk 39 Smoke Dischargers** ..... $5.95 M/D
Nifty little set of etched base plates and milled launcher tubes to create the turret mounted smoke launchers on any Tiger I. Used in this book.

35418 **Tiger I S-Mine Throwers** ..... $7.95 M/D
Milled tubes, etched hardware and white metal grenades for any early Tiger I model. Used in this book.

35484 **Barrel Cleaning Rods for Tiger I** ..... $4.95 W/D
A set of six milled aluminum rods. Rods actually fit together.

35485 **Barrel Cleaning Rods for King Tiger** ..... $4.95 W/D
A set of six milled aluminum rods, slightly longer for the King Tiger. Rods actually fit together.

35509 **Tow Cable for Tiger I, King Tiger, Jagdtiger** ..... $5.95 M/D
Braided aluminum track cable. A bit on the thick side.

35510 **Barrel Cleaning Rod & Tow Cable** ..... $14.95 M/D
Two types of cable, etched brackets and resin cable ends for any Tiger I kit.

35511 **Barrel Cleaning Rod & Tow Cable** ..... $13.95 M/D
Two types of cable, etched brackets and resin cable ends for any Tiger II kit.

Fine Molds

Aza-Uenoyama 65-69
Unoya-cho
Toyohashi City
Aichi 441-31
Japan

Fine Molds is a small styrene manufacturer with only two Tiger related products.

MG-08 **German AFV Periscope Set 1** ..... $10.00 P/D
For Tiger I's and II's with the cast cupola. Three clear sprues, each containing three small cupola periscopes and two hatch periscopes. Smaller scopes work on the cupola and the loader's position.

MG-23 **German Clear Periscope Set, Tiger I** ..... $10.00 P/D
For Tigers with the drum cupola. Three clear sprues, each containing a hatch periscope, three cupola periscopes, three cupola periscope pads and a clear vision block for the driver.

Friulmodellismo

"...I'm a believer, I couldn't leave her if I tried." I'm sorry, I can't help it. I think that Friul is the bomb. They are the first and only manufacturer of white metal workable link-to-link tracks and the inventor of the highly realistic "pin" system. The casting is incredible (how do they get the hole in the link?); the links go together well, stay together well and take a lot of punishment.

ATL-06 **Tiger I** ..... $32.00 W/A
Replacement I-to-I for Italeri or Tamiya kits. Late type with "chevron" style cleat.

ATL-16 **King Tiger/Jagdtiger** ..... $32.00 W/A
Replacement I-to-I for Tamiya and Dragon kits. Dual link style.

ATL-21 **King Tiger transport** ..... $32.00 W/A
Replacement I-to-I for Tamiya or Dragon kits. Narrower style. Also suitable for Panther II and Jagdtiger.

ATL-22 **King Tiger/Jagdtiger Early** ..... $32.00 W/A
Replacement I-to-I for Tamiya or Dragon kits. Early "dog bone" multi-part second link with pattern. Includes drive sprockets.

ATL-25 **Tiger I Early** ..... $32.00 W/A
Replacement I-to-I for Tamiya or Italeri kits. Early, slotted face cleat.

ATL-26 **Tiger I Transport** ..... $32.00 W/A
Replacement I-to-I for Tamiya or Italeri kits. Narrower style. Also appropriate for the prototype VK3601.

ATL-37 **Tiger II Single Link Late Type** ..... $39.95 W/A
For Tamiya kits. Very late style composed of identical links. For a March '45 Tiger II.

ATL-41 **Tiger II/Jagdtiger** ..... $39.95 W/A
Replacement I-to-I for Tamiya or Dragon kits. Early "dog bone" multi-part second link without pattern. Includes sprockets.

ATL-42 **Tiger II, Jagdtiger, Late transport Tracks** ..... $32.00 W/A
Replacement I-to-I for Tamiya or Dragon kits. "Dog bone" multi-part second link with pattern.

AW-14 **Sprocket for Tiger II/Jagdtiger** ..... $7.95 W/A
Replacement parts for Tamiya or Dragon kits. Later nine tooth type.

AW-16 **Sprocket for King Tiger/Jagdtiger** ..... $7.95 W/A
Replacement parts for Tamiya or Dragon kits. Early 18 tooth type.

AW-17 **Sprocket for King Tiger/Jagdtiger** ..... $7.95 W/A
Replacement parts for Tamiya or Dragon kits. Late 18 tooth type.

Hot Barrels

Mezilesí 718
193 00 Prague
Czech Republic
Tel: 420281923909
Fax: 4202819223910
office@mpm.cz
www.czechmasterskits.cz

Hot Barrels is an extension of CMK, the well-known Czech resin manufacturer. All of the products are packaged in a bubble card and include multiple parts.

HB 047 **8.8 cm KwK 43/2 L/71** ..... $10.75 M/D
Early monobloc style for "Porsche" turreted Tiger II's with resin muzzle brake. Zimmerit textured resin mantlet included.

HB 048 **8.8 cm KwK 43/3 L/71** ..... $10.75 M/D
Later, two section barrel style for "Porsche" turreted Tiger II's with resin muzzle brake. Zimmerit textured resin mantlet included.

HB 049 **8.8 cm KwK 43/3 L/71** ..... $10.75 M/D
Early monobloc style for "Porsche" turreted Tiger II's with resin muzzle brake. Resin mantlet included.

HB 050 **8.8 cm KwK 43/3L/71** ..... $10.75 M/D
Later, two section barrel style for "Porsche" turreted Tiger II's with resin muzzle brake. Resin mantlet included.

HB 051 **8.8 cm KwK 43/2 L/71** ..... $10.75 M/D
Early monobloc style with resin muzzle brake. Resin bell-shaped mantlet for production Tiger II's included. Sort of an odd combination.

HB 052 **8.8 cm KwK 43/3 L/71** ..... $10.75 M/D
Later, two section barrel style. Resin bell-shaped mantlet for production Tiger II's included.

Jaguar Models, Inc.

17426 Colima Road
Rowland Heights, CA 91748
USA
Tel: (626) 965-2292
Fax: (626) 965-2272
www.jaguarmodels.com

Jaguar is sort of "on-again, off-again," but if you can get your hands on it, do it. The quality is super. They also make some smashing figures that would look great populating you next Tiger model.

63512 **King Tiger Interior for Tamiya** ..... $39.98 R/A
Parts to create an interior for the Tamiya Tiger II kits, 35164 and 35169. Does not include engine.

63812 **Tiger I Detail Set** ..... $9.98 R/A
Resin stowage bins, front fenders and other parts for Tamiya or Italeri kits.

63818 **Tiger I Detail set stowage pin** ..... $4.98 R/A
The stowage bin by itself.

63830 **Tiger I burned out road wheels** ..... $8.98 R/A
1/4 set of eight wheels for the Tamiya early Tiger I, sans rubber.

Jordi Rubio

Av. Gaudi 56
08025 Barcelona
Spain
34-93-435-78-79

One of the first to mass-produce milled metal barrels, they are still pumping them out. The barrels are turned from aluminum and include a white metal muzzle brake.

TG 06 **German 8.8cm KwK 43/L71** ..... $8.95 W/D
Turned aluminum barrel and white metal muzzle brake. For all but very early production Tiger II's.

TG 08 **German 8.8cm KwK 36** ..... $6.95 W/D
Turned aluminum barrel and white metal muzzle brake. For all but final production Tiger I's.

TG 14 **German 8.8cm KwK 43/2/L71** ..... $8.95 W/D
Turned aluminum barrel and white metal muzzle brake. Early, monobloc style for early production Tiger II's.

Karaya

AirConnection (see listing above)

My 'gran used to tell me, *"if you're only going to do one thing, do it well."* Karaya makes only tow cables and they do it very well. All the products are spun out of fine copper wire and remain very flexible and pliable. AirConnection packages them into sets, but I have also listed some of the other odd sizes.

001L **German Towing cable 0.6mm** ..... $3.99 W/D
0.6mm in diameter/7" (180mm) long.

002L **German Towing cable 0.7mm** ..... $3.99 W/D
Left twist, one piece 0.7mm in diameter/7" (180mm) long.

003L **German Towing cable 0.9mm** ..... $3.99 W/D
Left twist, one piece 0.9mm in diameter/7" (180mm) long.

006L **German Towing cables 1.35mm** ..... $6.99 W/D
Left twist, two pieces 1.35mm in diameter/10" (250mm) long each.

007L **German Towing cables 1.50mm** ..... $6.99 W/D
Left twist, two pieces 1.50mm in diameter / 10" (250mm) long each.

35002 **Complete set for Pz Kpfw. VI Tiger** ..... $9.99 W/D
This set consists of three pieces of tow cable. Two pieces of 1.25 mm (500mm long), for the main tow cables, one piece of 0.6 mm (500mm long) for the track cable and six resin tow cable heads.

M00 **Towing Cable 0.4mm in diameter** ..... $9.99 W/D
The standard track cable for the Tiger I and II measured 15mm thick. 15mm divided by 35 is 0.4—just so you know. 1 meter (3.3 feet) long.

M04 **Towing Cable 1.1mm in diameter** ..... $9.99 W/D
1 meter (3.3 feet) long.

M05 **Towing Cable 1.25mm in diameter** ..... $9.99 W/D
1 meter (3.3 feet) long.

Kirin

Kirin may or may not be long gone, but they are still listed as an entity on the Jaguar web site. Consider all the Tiger stuff hard to find.

28513 **Tiger I Late /Zimmerit Conv.** ..... $24.98 R/C
Hull and turret replacement parts. For Tamiya 35194 and 35146.

28514 **Early Tiger I Conversion** ..... $24.98 R/C
Converts Tamiya 35146. Includes turret interior.

28515 **Porsche Tiger II Zimmerit Conv.** ..... $24.00 R/C
Zimmerit coated replacement parts. For Tamiya 35164 and 35169. Includes complete upper hull and turret.

28516 **Henschel Tiger II Zimmerit Conv** ..... $24.98 R/C
Zimmerit coated replacement parts. For Tamiya 35164 and 35169. Includes complete upper hull and turret.

Lion Roar

708 Changle Rd,
Shanghai, China
200040
Tel:/Fax: 86 21 54038638
www.lionroar.net/

Lion Roar is relatively new to the photo-etch game, but their sheets are very complete. The quality is also very good. Keep an eye on their web site.

LE35013 **King tiger (Porsche & Henschel)** ..... N/A E/D
Good quality, multi-fret etched set. Designed for any Tiger II kit.

LE35014 **King tiger & Jagdtiger side fender** ..... N/A E/D
For any of the Tamiya King Tigers or the DML Jagdtigers. Interestingly, this is the only set available that features the unique "double hole" set-up on the side fender panels.

LE35015 **Tiger I (mid/late production)** ..... N/A E/D
Good quality, multi-fret etched set. Designed for any Tiger I mid-production kit.

LE35023 **Tiger I (early production)** ..... N/A E/D
Good quality, multi-fret etched set. Designed for any Tiger I early production kit.

Minimeca

C/Escultor Lobato, 15
50.007 Zaragoza
Spain

This is a small Spanish firm that specializes in metal accessories. The best way to find out about them is through their U.S. agent, VLS (see below).

3505 **King Tiger, Jagdtiger Barrel Cleaning Rods** ..... $4.95 W/A
Several hollow aluminum tubes with smaller diameter tubes to create the ends.

3506 **Tiger I Barrel Cleaning Rods** ..... $4.50 W/A
Several hollow aluminum tubes with smaller diameter tubes to create the ends.

3523 **Track cable Tiger I, King Tiger, Jagdtiger** ..... $17.95 W/A
Single strand of braided wire.

ModelKasten

c/o ART BOX
Chiyoda-ku
Kanda Nishiki-cho 1-7
Nishiki-cho 1-chome bldg.
4th Floor
Tokyo 101-0054

This is where it all started. Right here. MK was the first to conceive that armor modelers would want to buy individual track links for their models. The first set was a non-workable one for the Panther and the line now includes a wide variety of sets and accessories for the Tiger family. I have found the track sets to be frustratingly delicate, especially during the weathering process. However, there are those who will use nothing else.

A-8 **Tiger I cupola** ..... $19.95 M/A
White metal detail parts and styrene roof to backdate Tamiya kit 35216. The cupola contains a full set of periscopes and makes a neat addition all on its own. Used on the Tiger P in this book.

C-1 **Tiger I early conversion kit** ..... $39.95 M/C
Parts to backdate Tamiya kit 35146. Includes Feiffel system, turret roof, white metal cupola and other parts.

K-4 **Tiger I early track** ..... $29.95 P/A
Non-workable link-to-link tracks. Set contains both the early and late type of track links. Requires the purchase of two sets to make a full set of either type.

K-7 **Tiger II track** ..... $29.99 P/A
Non-workable link-to-link tracks. Early style double link type for any Tiger II model prior to March '45.

M-5 **Tiger I middle model conversion kit** ..... $13.95 W/D
White metal parts to backdate Tamiya kit 35146. Hatch rim, travel lock, etc.

M-6 **Tiger I late idler wheel** ..... $13.95 W/A
Multi part set of two idlers to create the final, smaller idler seen on late and final production Tiger I's. Designed to update Tamiya kit 35146 and currently the only game in town.

M-7 **Bosch light Set** ..... $13.95 W/A
Set of six detailed white metal Bosch lights for the front of any Tiger I or Tiger II model. Used in this book.

SK-01 **Tiger I late model** ..... $29.95 P/A
Workable link to link track set. "Chevron cleat" style. For mid and late production Tigers from Tamiya, Italeri and Academy.

SK-02 **Tiger I Early model tracks** ..... $29.95 P/A
Workable link to link track set. "Double groove" cleat style. For early production Tigers from Tamiya, Italeri and Academy.

SK-03 **Tiger I transport tracks** ..... $26.95 P/A
Workable link to link track set. For all Tiger I's from Tamiya, Italeri and Academy. This is the set that contains the fittings for the turret track hangers and the exhaust guard lifting lugs.

SK-04 **Tiger I late spare tracks** ..... $12.95 P/A
Workable link to link track set. "Chevron cleat" style. Companion to SK-01.

SK-05 **Tiger I early spare tracks** ..... $12.95 P/A
Workable link to link track set. "Double groove" cleat style. Companion to SK-02.

SK-06 **Tiger II (King Tiger) tracks** ..... $29.95 P/A
Workable link to link track set. Early style double link type for any Tiger II model prior to March '45. Includes rotation adapter for drive sprocket.

SK-16 **Tiger II spare track** ..... $14.95 P/A
Workable link to link track set. Companion to SK-6.

W-1 **Tiger I Early Road wheels** ..... $29.95 P/A
Replacement rubber tire road wheels and hubs to back date Tamiya 35146. Designed to be used in conjunction with C-1. Both sets were released before any of the earlier Tamiya kits. The set is still useful, though, because it contains the full set of empty flanges seen when the outer road wheels are removed. Also includes dozens and dozens of the square side fender attachment bolts.

Model Point

I have no contact information on Model Point. No biggie, as they are pretty much only available through other mail order companies (see below). The quality is great.

3532 **Tiger II Pak43/2 L71 88cm** ..... $17.00 W/A
Two piece barrel for Tamiya kits with the production turret. Uses kit muzzle brake.

3533-1 **KWK-36L/56 8.8cm barrel** ..... $14.00 W/A
Designed for Italeri Tiger I's. Uses kit muzzle brake.

3551 **90mm Nb.k.wg Smoke/grenade launcher** ..... $22.00 W/A
Drop dead gorgeous milled tubes with charges.

3551-1 **90mm Nb.k.wg Smoke/grenade launcher** ..... $18.00 W/A
Drop dead gorgeous milled empty tubes.

3533 **KWK-36L/56 (8,8cm) PzKpfw. VI Tiger I** ..... $7.00 W/A
Stated as designed for the Academy kit, but shown on their website mounted on a Tamiya turret. Go figure. Uses kit muzzle brake.

Moskit

All these cats make is pre-weathered exhaust elements for 1/35th-scale tanks. Cool. They make the one Tiger item.

3505 **Tiger II/Jagdtiger Exhausts** ..... $7.95 W/D
Pre finished and pre weathered exhaust tubes that include interior wire guard. Nifty.

MR Modellbau

Adalbertstraße 7a
38690 Vienenburg
Germany
Tel: 49 5324 798318
Fax: 49 5324 69733
MRModellbau@t-online.de
www.mrmodellbau.de

No, no—it's not "mister" models, it's "emm-are." It's simply a guy who makes masters and cranks them out in resin and white metal. It's good, sound stuff.

3529 **Feiffel air-filters early & late for Tiger I** ..... $22.95 M/A
Detailed white metal parts for any appropriate Tiger I.

3573 **Detail set Tiger I** ..... $25.95 M/A
An interesting variety of resin and white metal parts for detailing an early Tiger I. Contains damaged front armor, Panzer III style stowage box, 503 style stowage box (with lid), oil bottles, toolbox, early straight style tow shackles and more. Very handy.

3589 **Tiger I Bow Armor** ..... $15.95 M/A
A complete set for duplicating the "Vorpanzer" bow armor seen on the Tiger I prototype. White metal arms and resin components. Used in this book.

New Connection

Dorfgütingen 40
91555 Feuchtwangen
Germany
49-09852-4329

New Connection is always up for something wacky. They seem to specialize in subjects that have barely seen the light of day, but the quality is spectacular. It can all be tough to find. Prices are in Euro.

35091 **8.8cm Tiger II/Nashorn Ammo Set** ..... 9.75 W/A
Turned aluminum rounds and brass shell casings

35223 **VK 36.01 - Henschel Tiger I predecessor, recovery** ..... 119.00 M/K
Complete resin kit of the early prototype Tiger converted to Bergepanzer. Operational details of this vehicle are still a mystery. Extensive interior detail includes winch, transmission, etc. Kit also includes Friul ATL-26 tracks.

35226 **VK 36.01 - Henschel Tiger I predecessor** ..... 110.00 M/K
Complete resin kit of the early prototype Tiger with the 7.5cm gun. This vehicle was extensively tested, but never fielded. Those produced were converted to Bergepanzer. See 35223. Kit includes Friul ATL-26 tracks.

R&J Enterprises

P.O. Box 39
Quillene WA 98376-0039
USA
360-796-3828
www.rjproducts.com

Known mostly for their extensive line of imported kits and accessories, R&J does their own thing with a handful of Tiger toys.

35200 **Breech for early Tiger I** ..... $10.00 R/D
Detailed and accurate replacement part for any Tiger I model from Academy, Tamiya or Italeri.

35200A **Breech for early Tiger I** ..... $15.00 M/D
Detailed and accurate replacement part for any Tiger I model from Academy, Tamiya or Italeri. Includes Jordi Rubio barrel and muzzle brake.

35201 **Breech for late Tiger I** ..... $10.00 R/D
Detailed and accurate replacement part for any Tiger I model from Academy, Tamiya or Italeri.

35201A **Breech for late Tiger I** ..... $15.00 M/D
Detailed and accurate replacement part for any late Tiger I model from Academy, Tamiya or Italeri. Includes Jordi Rubio barrel and muzzle brake.

35227 **German Tiger II/Jagdtiger cooling system** ..... $8.00 R/D
Drop-in module with four radiators in housings and four separate fans. For the Tamiya or Dragon kits.

Royal Models

P.O. Box 25
Via Federico De Roberto
65-95039 Trecastagni
Italy
39-095-7809911

The reigning king of the mixed media detail set. Royal is very prolific and they continually update and improve their line. Even though the sets are mixed media (resin and etch), their etched sets rival or surpass the competition. The resin quality is also very high and they have executed some amazingly small parts. I couldn't have done this book without them.

020 **Tiger I Mudguards** ..... $11.00 E/D
Front and rear fenders with hardware. For Academy, Italeri or Tamiya kits.

021 **Tiger II Mudguards** ..... $11.00 E/D
Front and rear fenders with hardware. For Tamiya kits 35164 and 35169. May also work with Dragon Jagdtigers 6050 and 6051.

027 **Tiger I Late version** ..... $21.95 M/D
Large photo-etch sheet and resin detail parts for newer Tamiya 35146.

057 **"Kugelblende" Tiger II Family** ..... $5.95 M/D
Detailed replacement MG port for any Tiger II model.

083 **King Tiger Detailing Set** ..... $26.00 R/D
Large photo-etched sheet and resin parts to detail new Tamiya kits 35164 and 35169. Also see the much more advanced 274.

094 **Tiger I Transmission** ..... $14.00 R/A
Resin detail parts.

140 **Tiger I Early** ..... $25.00 E/D
Large and extensive sheet to detail the exterior of Academy 1348. With some small resin parts.

158 **Tiger I Early Update** ..... $28.00 E/D
Designed for the Tamiya kit, 35216, this set is extensively useful for any version of the Tiger I. This set was used throughout this project—a big thumbs up!

159 **Tiger I, Early Mudguards** ..... $22.00 E/D
A full set of front and rear production style fenders.

160 **Tiger I Turret Stowage Box** ..... $14.00 E/D
A production style box made completely from etched material. Looks fantastic when it's done, but doesn't quite fit the back of the turret. Maybe it was me...

262 **Sd.Kfz. 184 "Elephant" Update Set** ..... $31.00 M/D
For the Dragon kit. See description below.

263 **Sd.Kfz. 184 "Ferdinand" Update Set** ..... $31.00 M/D
Wonderfully complete set that contains several sheets of photo-etch and resin parts for the Dragon kit. I used this extensively on the Tiger (P) in this book.

264 **Sd.Kfz. 184 "Ferdinand/Elephant" Fender Set** ..... $24.00 E/D
A compete set of etched fenders for either of the Dragon kits. The front and back fender panels are especially useful.

268 **Tiger II Fender Set** ..... $26.00 E/D
A full set of front and rear production style fenders.

274 **Tiger II Update Set "Porsche Turret" Version** ..... $34.00 M/D
Although designed for the "Porsche" version, most of the parts are useful for any Tiger II model. Probably one of the best sets they have ever done, this etched and resin detailing festival was used extensively on all the Tiger II models in this book. I love it and I want to marry it.

The Show Modelling

c/o BAUMANN
casa Verda B1-#D
Daita 3-13-12
Setagaya-ku
Tokyo 155-0033

One of the very early producers of photo-etch material for armor models. Aber and Eduard have mostly surpassed their stuff and this is especially compounded when one considers the effort involved in obtaining it.

SH-028 **Tiger I Zimmerit Sheet (for Tamiya)** ..... $11.95 S/A
Embossed paper sheet for Tamiya 35146.

SH-040 **King Tiger Henschel Zimmerit Sheets** ..... $17.95 S/A
Embossed paper sheet for Tamiya 35164.

SH-041 **King Tiger Detail Set #1-Engine Grilles** ..... $19.95 E/A
Mesh deck screens for Tamiya 35164 and 35169.

SH-042 **King Tiger Detail Set #2-Accessories** ..... $18.95 E/A
Solid deck plates and other parts for Tamiya 35164 and 35169.

SH-053 **King Tiger Porsche Zimmerit Sheet** ..... $17.95 S/A
Embossed paper sheet for Tamiya 35169.

SH-054 **King Tiger Porsche Detail Set** ..... $25.95 E/A
For Tamiya 35169.

SH-084 **Tiger I Early Detail Set s.PzAbt. 501** ..... $22.95 E/A
For Italeri kit. North African type. Large sheet includes screens, fenders and exhaust guards.

SH-100 **Tiger I Late Model Set** ..... $18.95 E/A
For Tamiya 35146. Mostly screens. Also seen as SH-007.

Tamiya, Inc.

Tamiya America Inc.
2 Orion
Aliso Viejo CA 92656
USA
714-362-2250
1-800-TAMIYA-A
www.tamiya.com

Ondawara 3-7
Shizuoka City
Shizuoka 422
Japan

Blame Tamiya. They started it all when they released the very first scale model of a Tiger I tank in 1969 and they have set the tone ever since. All of the models in this book (except the Tiger P, which has a Tamiya turret) are based on a Tamiya kit. Domo Harigoto!

21003 **Tiger I Early Model Completed** ..... $291.00 P/K
Part of the Tamiya "Masterwork Collection," this tank is fully assembled, painted (in dark gray, as a tank from the s.PzAbt. 503) and lightly weathered. The model also features pre-built and painted Friulmodellismo tracks.

35146 **Tiger I Ausf. E (Late)** ..... $45.00 P/K
Late steel wheeled version that includes non-workable link-to-link tracks. All new tooling. One of Tamiya's breakthrough kits. One figure.

35164 **German King Tiger Henschel** ..... $41.00 P/K
All new tooling of the production turret version. One figure.

35165 **King Tiger separate track links** ..... $21.50 P/A
Non-workable link-to-link tracks. For 35164 and 35169. Enough for one tank and some spares.

35166 **King Tiger 88mm projectiles** ..... $11.50 MA
Turned brass. Eight shells (two types) and five empty cases.

35167 **King Tiger etched grilles** ..... $9.50 E/D
Six piece grill cover set for 35164 and 35169. Also includes MG sights.

35169 **German King Tiger Porsche Turret** ..... $41.00 P/K
All new tooling with "Porsche turret." One figure.

35179 **Tiger I etched grilles** ..... $9.50 E/D
Four piece set for 35146, 35177 and 35216. Includes MG sights.

35187 **Zimmerit Coating Applicator** ..... N/A E/A
Highly useful set of etched applicators. Works terrific with Tamiya Polyester Putty. Three different size tools, one set in 0.5mm pitch and the other in 0.7mm pitch. Tough to find, but worth the effort. Used in this book.

35189 **Tiger I brass 88mm projectiles** ..... $11.50 W/A
Turned brass. Ten shells (two types) and six empty cases.

35194 **Tiger I Mid-Production** ..... $45.00 P/K
Mid production version with late style cupola and rubber tire wheels. Comes with one figure. Also see number 35202.

35202 **Tiger I (mid-production)** ..... $63.00 P/K
Also see 35194. "Otto Carius" limited edition with extra portrait figures, special decals and instructions. Considered a collector's item now, the retail price is from when the kit was brand new. The crew sprue is now available separately as 89617.

35216 **Tiger I Frühe Producktion** ..... $43.00 P/K
All new tooling based on kits 35146 and 35194. Early production version with parts to make four variants. The turret has the pistol port on the left and the escape hatch on the right.

35217 **Tiger I photo etched grill** ..... $9.50 E/D
Virtually the same as 35179, but without the MG sights.

35227 **Tiger I Initial Production** ..... $45.00 P/K
Subtitled as "Tiger I Ausführung Afrika," this kit contains extra plastic parts to create the unit made modifications seen on Tigers of the s.PzAbt. 501 in Tunisia. Includes early front mudguards and slotted exhaust covers. This is the kit you want if you're doing a very early version with the twin pistol ports.

35252 **German King Tiger (Ardennes Front)** ..... $50.00 P/K
Identical in most respects to 35164, but with dramatic new box art. Also contains a new two figure crew and the DKW NZ 350 motorcycle sprue (89548) with a rider. One extra sprue with a "late" mantlet with no milled ridges.

48202 **Tiger I Early Production (R/C)** ..... $129.00 P/K
The same exact kit as 35216, but offered as a full R/C model. You need to assemble the model as normal, but all wiring for the digital controller and receiver is provided. Motors are included, too. The three-channel transmitter is capable of ordering the tank to duplicate any of the motions of a real tank. All you need to get your Tiger moving is batteries (four AA for the tank, and one 9V for the transmitter).

48203 **King Tiger Production Turret (R/C)** ..... $129.00 P/K
The same exact kit as 35164, but offered as a full R/C model. You need to assemble the model as normal, but all wiring for the digital controller and receiver is provided. Motors are included, too. The three-channel transmitter is capable of ordering the tank to duplicate any of the motions of a real tank. All you need to get your Tiger moving is batteries (four AA for the tank, and one 9V for the transmitter).

49504 **German Tiger I Tank Late Version "Special Box"** ..... $38.96 P/K
Limited-release edition of the original Tiger I kit. All details of this kit are identical to 35146, with the exception of the smashing box art and the decals, which includes a larger variety of markings, including those for the Tiger I's that appeared in "Saving Private Ryan."

89562 **German Tiger I with Commander and crew** ..... $46.00 P/K
Actually the original 35146 Late Production kit with a spiffy four figure crew included. The only external difference is a small sticker on the front of the box.

89566 **Tiger I Later version w/Ace Commander & Crew** ..... N/A P/K
Japanese domestic re-issue of 89562.

Tank Workshop

6102 W Solano Drive So.
Glendale AZ 85301
USA
(602) 915-3862

TWS has been regular fixture in the U.S. resin industry (if you can call it that) for years. They are the one to turn to for value priced accessories for your Tiger models. Their Tiger I interior is probably the best one out there.

TW 1032 **Burnt Tiger I Wheels 1 Set** ..... $17.00 R/K
One set of wheels with no rubber tires.

TW 1034 **Tiger I Engine** ..... $10.00 R/K
For Tamiya kits. Engine only with two air cleaners.

TW 1035 **Tiger II Engine** ..... $10.00 R/K
Engine only for Tamiya kits.

TW 1038 **Tiger I Transmission** ..... $10.00 R/K
Tranny only for Tamiya kits.

TW 1039 **Tiger II Transmission** ..... $10.00 R/K
Tranny only for Tamiya kits.

TW 1042 **Tiger I Hubs** ..... $5.00 R/K
For the removal of outer road wheels for rail transport (16). For Tamiya kits. Value city, man!

TW 1053 **Tiger I Radiator/Cooling Fan Insert** ..... $5.00 R/K
Just what you can see through the hull openings. For jerky-boy judges with pen lights. For Tamiya kits. Used in this book.

TW 1054 **Tiger II Radiator/Cooling Fan Insert** ..... $5.00 R/K
Just what you can see through the hull openings. For jerky-boy judges with pen lights. For Tamiya kits. Used in this book.

TW 2001 **Tiger I Transport Railcar** ..... $90.00 R/K
Heavy transport car with three axle trucks (Panther car has two-axle trucks).

TW 2002 **Tiger I Interior** ..... $70.00 R/K
Awesome wall to wall set, includes engine. For Tamiya kits.

TW 2016 **Tiger I Starter Kit** ..... $12.00 R/K
Cold weather starter for Kübelwagen to Tiger mating.

TW 2018 **Tiger I Rear Engine Deck** ..... $5.00 R/K
Five piece set of rear deck panels to display engine. For any Tamiya Tiger.

TW 2019 **Tiger I Front Plate No Fenders** ..... $3.00 R/K
Replacement part for any Tamiya Tiger I. Great when you're installing etched fenders. Used in this book.

TW 2022 **King Tiger Fighting Compartment** ..... $50.00 R/K
Fighting compartment only for Tamiya 35164 (production turret). Can also work with 35169, but needs fiddling in the turret.

TW 2039 **Tiger I partial interior** ..... $28.50 R/A
Just the stuff you can see through the hatches. Yet another remedy for jerky-boy judges and their penlights.

TW 2054 **King Tiger muzzle brake with canvas cover** ..... $3.75 R/K
Production version with clothing.

TW 2064 **Large Boxes for 88mm Rounds** ..... $28.50 R/A
For all types of 88mm ammo. Six pieces.

Techmod

I don't know too much about these cats. They manufactured a few styrene armor pieces for a while, but my latest experience is with their waterslide decals for the Tiger I.

35001 **PzKpfw VI "Tiger" Ausf. E (late)** ..... $8.99 S/WS
Decals for twelve tanks, plus color plates and comprehensive instructions.

35005 **PzKpfw VI "Tiger" Ausf. E (early)** ..... $8.99 S/WS
Decals for ten tanks, plus color plates and comprehensive instructions.

Testor/Italeri

Italeri S.p.a.
Via Pradazzo 6/B
40012 Calderara di Reno BO
Italy
Tel: 39 (051) 726037
Fax: 39 (051) 726459
italeri@italeri.com
www.italeri.com

The Testor Corporation
440 Blackhawk Ave
Rockford, IL 61104
USA
800-962-6654
www.testors.com

Testor is the import agent for Italeri in the U.S. and they really get behind the product with terrific customer support. Italeri has a similar reputation in Europe. Their Tiger kits are composed of multi-panel hulls and band-type tracks. I have always thought that the detail is a little off on these kits. But once again, this is just my opinion. Others I've known have built them and loved 'em.

0278 **Ferdinand Tiger** ..... $29.00 P/K
Porsche prototype of the Tiger I. Also known as the Tiger P.

0286 **Tiger I Ausf. EH1** ..... $29.00 P/K
Early version with Fiefel air cleaners.

0293 **Tiger I E Late** ..... $29.00 P/K
Late version with steel road wheels.

0362 **Tiger w/mine clearing device (Bergetiger)** ..... $29.00 P/K
Tiger I tank with mine laying (or clearing) rig in place of the main gun. "This is not a Bergetiger!"

Tiger Model Designs

5305 B Bertha Nelson Rd.
Panama City, FL 32404
USA
Phone: (850) 763-2529
Fax: (850) 522-6474
info@Tigermodels.com
www.Tigermodels.com

You'd probably figure these guys started out making stuff for Tigers, right? Well, actually that's more of a recent phenomenon (and unfortunately, most of it was too late for this book). They have really gone nuts with Tiger parts and accessories and have created a wonderfully diverse line of products. The quality is top notch.

352078 **8.8cm L/43 Ammo** ..... $9.95 R/D
Contains four each of Pzgr. Patr. 39 HI and 39/43 HI. Also includes six empty casings and four metal shipping canisters.

352100 **Initial Tiger I Asymmetrical Turret** ..... $19.95 R/D
Represents the initial production run turret with pistol ports seen Aug. '42 to Jan. '43. The turret sides are textured and smaller details such as weld beads, flanges and lifting lug details have also been added. The set contains a separate tree with the three turret lifting lugs.

352101 **Early Tiger I Asymmetrical Turret** ..... $19.95 R/D
Represents an early production run turret, with the pistol port behind the TC and the escape hatch on the right side of the turret. See Jan. to May '43. The turret sides are textured and smaller details such as weld beads, flanges and lifting lug details have also been added. The set contains a separate tree with the three turret lifting lugs and a detailed escape hatch.

352102 **Mid Tiger I Asymmetrical Turret** ..... $19.95 R/D
Represents a mid-production run turret with the pistol plug and the escape hatch on the right side of the turret first seen in July '43. The turret top has been detailed with the initial version of the new commander's cupola. The turret sides are textured and smaller details such as weld beads, flanges and lifting lug details have also been added. The set contains a separate tree with the three turret lifting lugs and a detailed escape hatch.

352103 **Final Tiger I Asymmetrical Turret** ..... $19.95 R/D
Represents a late production run turret, with the pistol plug deleted entirely and the redesigned escape hatch on the right side of the turret first seen in May '44. The turret top has correct 40mm armor and detailed final version of the commander's cupola. The set contains a separate tree with the three turret lifting lugs and a detailed escape hatch.

352104 **Tiger I Mantlet #1** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for an initial or early style Tiger I.

352105 **Tiger I Mantlet #2** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for an initial, early and even a mid-production Tiger I.

352106 **Tiger I Mantlet #3** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for a mid, or final production Tiger I.

352107 **Tiger I Mantlet #4** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for a mid, or late production Tiger I.

352108 **Tiger I Mantlet #5** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing, the elevation stop lug and the rain visor over the gun sight. Suitable for an initial or early Tiger I.

352109 **Tiger I Mantlet #6** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for an early Tiger I.

352110 **Tiger I Mantlet #7** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for an early or mid-production Tiger I.

352111 **Tiger I Mantlet #8** ..... $4.95 R/D
Casting texture and casting numbers added, as well as the weld bead around the recuperator housing and the elevation stop lug. Suitable for a mid-production Tiger I.

352114 **Tiger I Armored Exhaust Covers** ..... $4.95 R/D
Covers have texture, casting numbers added and separate lifting lugs. These armored covers are suitable for all production series Tiger I's. Especially nice if you are building a Tiger I without the sheet metal exhaust covers.

352115 **Tiger I Early Front Armor** ..... $5.95 R/D
Separate two-piece driver's visor, which allows the driver's visor to be positioned opened or closed. Also has the episcope holes above the driver's direct view periscope; separate wing nuts for the waterproof MG cover and a clear driver's periscope. Suitable for a Tiger I produced up to Feb. '43.

352116 **Tiger I Mid Front Armor** ..... $6.95 R/D
Separate two-piece driver's visor, which allows the driver's visor to be positioned opened or closed. Also has the episcope holes above the driver's direct view periscope welded over; separate wing nuts for the waterproof MG cover and a clear driver's periscope. Suitable for Feb. to June '43 production Tiger I's.

352117 **Tiger I Final Front Armor** ..... $5.95 R/D
Separate two-piece driver's visor, which allows the driver's visor to be positioned opened or closed. Episcope holes above the driver's direct view periscope deleted. Includes a clear driver's periscope. Suitable for a Tiger I produced from June '43 on.

352128 **Tiger I S-Mine Launchers w/Grenades** ..... $8.95 R/D
This includes five launcher tubes, five launch tube back plates, five forward mounting brackets, two rear mounting brackets and a left and right rear two-piece launcher mounting bracket set. The grenades fit into the launching tubes with little or no work and the launch tube mounting brackets include the knob detail often missing from similar detail sets, including those used in this book.

352129 **Tiger I Spare Track Holders w/Track** ..... $9.95 R/D
Designed to replace the track holders on any manufacturer's Tiger I model kit. This set contains 24 resin parts, positioning templates and eight track links. Each spare track-mounting bracket consists of three pieces and has been designed so that they can be shown in their empty, "hanging" position. The bracket latches include their handles and casting numbers. Enough pieces to make 12 track holders (seven are required for each turret).

352130 **s.PzAbt. 503 Pzr III Storage Box** ..... $4.95 R/D
This is a simple, but detailed Panzer III-style storage box with mounting brackets to create the kind of box seen on initial production Tiger Is of the s.PzAbt. 503. Designed for Tamiya's initial production Tiger I kit (35227).

352131 **Tiger I Befehlswagen Conversion** ..... $11.95 R/D
A simple, straightforward conversion to turn any Tiger I kit into the command variant. Includes nine resin parts, two pieces of plastic rod and a resin jig for making the crow's foot antenna. Also included is 1:35 scale template to aid in the correct positioning of the various antennas.

Trakx

VLS
1011 Industrial Court
Moscow Mills, MO 63362
(636) 356-4888
(636) 356-4877
www.modelmecca.com

Trakx is part of the extensive line of products available through VLS.

TX 0078 **Tigers in Tunisia Waterslide Decals** ..... $8.95 S/WS
A variety of numbers, crosses and tactical markings for Tiger I's seen in Tunisia.

TX 0079 **Tigers in Italy Waterslide Decals** ..... $8.95 S/WS
A variety of numbers, crosses and tactical markings for Tiger I's.

TX 0080 **Tigers in Normandy Waterslide Decals** ..... $8.95 S/WS
A variety of numbers, crosses and tactical markings for Tiger I's.

Verlinden Productions

811 Lone Star Drive
Lone Star Industrial Park
O'Fallon MO 63366
USA
(314) 281-5750
www.verlinden-productions.com

VP is certainly the Grandfather of all armor accessory sets. Their Tiger work has been going for a while and they continue to release items on the subject. Much of their stock tends to come and go, but they produce so much of it that an item can still be found with a little effort. VP has been a leader in casting quality since they first started.

VP 0406 **King Tiger Engine HL230 P45** ..... D R/A
Engine only.

VP 0406 **King Tiger Engine HL230 P45** ..... D R/A
Engine only.

VP 0431 **Tiger I Tank Engine (Early)** ..... D R/A
Engine only.

VP 0526 **Tiger I Engine & Compartment** ..... $25.50 R/A
Resin engine and large photo-etch sheet to create compartment for Tamiya 35146.

VP 0901 **Tiger I Ausf. E Interior** ..... D R/K
For Tamiya 35146.

VP 1045 **King Tiger Engine Compartment** ..... $27.95 R/K
Resin engine and compartment for Tamiya 35164 and 35169. Also includes large, outer engine panel in resin.

VP 1046 **King Tiger Transmission** ..... D R/A
Tranny only.

VP 1049 **Tiger I Transmission** ..... D R/A
Tranny only.

VP 1177 **Tiger I Detail Set** ..... $21.95 R/D
Includes headlight, open turret stowage bins, tow cable eyelets, pioneer tools, jack and block, periscopes, buckets, three headphones, fire extinguisher, ammo bags, fenders, skirts, buckles, latches and more. For Tamiya 35146.

VP 1250 **Zimmerit for Tiger IE** ..... $16.95 R/A
Detailed resin parts for Tamiya 35146.

VP 1360 **Tiger I Engine Disassembled** ..... $14.50 R/A
Resin block, valve train, manifolds, etc.

VP 1370 **Tiger I Rear Compartment** ..... $30.95 R/A
Resin engine, fans, radiator components, rear hull wall, top deck elements and exhaust shrouds.

VP 1792 **King Tiger Interior** ..... $44.95 R/A
Complete resin interior: driver's compartment, fighting compartment and turret. For Tamiya kits 35164 and 35169.

VP 1796 **King Tiger Zimmerit and Details** ..... $28.95 R/A
Photo-etch Zimmerit panels for hull and turret. Includes tool clips and latches. For Tamiya kit 35164 or 35252.

VP 1843 **Tiger I Zimmerit and Details** ..... $28.95 R/A
Photo-etch Zimmerit panels for hull and turret. Includes resin mantlet. For Tamiya Tiger I kits.

Source List

Looking for all that stuff? First, try your local hobby shop. The listed addresses can be helpful for them as well as for you. For Internet and mail order sales, here are a few of my favorite vendors. This isn't everyone, just those I have had some experience with. They have proved both reliable and consistent in terms of service and selection. Remember, hard to find items are that way for a reason: there are not many of them around. When you find it, buy it!

AirConnection
See previous listing.

Blast Models
See previous listing.
Blast is a good European source for Tiger Model Designs.

Chesapeake Model Designs
See previous listing.
CMD is the importer of Friulmodellismo, Royal Models and Fine Molds, among several others. They act as a distributor for these lines and can supply hobby shops as well.

CRM Hobbies
3326 Watson Rd.
St. Louis, MO 63139
(314) 645-1117
crm@inlink.com
CRM deals in everything; the place is filled to the rafters. I think these guys have stuff even they don't know about! A good source to have in your back pocket.

Historex Agents
Wellington House
157 Snargate Street
Dover, Kent CT17 9BZ United Kingdom
sales@historex-agents.co.uk
www.historex-agents.com
Tel: 01304 206720
Historex Agents is the UK distributor of Aber, Friulmodellismo, New Connection and… oh yes, MMiR. Their service is impeccable.

Hobbylink Japan
Tatebayashi-shi
Nishitakane-cho 43-6
Gunma, 374-0075, Japan
Fax: 81-276-80-3067
www.hlj.com
HLJ is a completely web based business specializing in Japanese and Asian hobby products. They are a good source for Decal Star, Show Modelling and Artisan Mori.

Jadar-Model
See previous listing.
Another completely web based business. Jadar is a sound source for all types of former East block products like Armo, especially if you are ordering from Europe.

Mission Models
408 Glendale Blvd.
Los Angeles, CA 90039 USA
Tel: (323) 666-4228
Fax. (323) 953-3614
www.missionmodels.com
One of the better U.S. sources for the hard to find. Armo, Atak, Artisan Mori, Model Point, Accurate Armour, Cromwell—you name it. They'll rock your world. The website is a staple.

M&Models
P.O. Box 434
Oak Lawn IL 60454-0434
Shop: 9239 S. Cicero
Oak Lawn, IL 60454 USA
Tel/Fax: (708) 423-7202
mmodels@earthlink.net
www.home.earthlink.net/~mmodels
Also specializing in the exotic and hard to find. One of the few U.S. sources for Decal Star.

Panzer Shop
See previous listing under Atak.
This completely web based business is a good source for anything made in the Czech Republic

Rainbow Ten
623-1, Ikeda,
Shizuoka-City,
Shizuoka-Pref.
422-8005, Japan
Fax: 81-54655-1988
info@rainbowten.co.jp
www.rainbowten.co.jp/english/
Mostly a web based business, they do have a shop, but I'm guessing you're not about to run out and find it. A good source for Clipper and other Japanese items. Best kept secret in town: because they're in Shizuoka (home of Tamiya), they can get Tamiya parts.

RZM Imports, Inc
PO Box 995
Southbury, CT 06488 USA
Tel: (203) 264-0774
Fax: (203) 264-4967
rzm@rzm.com
www.rzm.com
The primary U.S. conduit for ModelKasten, they also specialize in a wide range of armor reference books.

Squadron Mail Order
1115 Crowley Drive
Carrollton, TX 75011-5010 USA
mailorder@squadron.com
www.squadron.com
Tel: (972) 242- 8663
Fax: (972) 242- 3775
Probably one of the oldest mail order companies for models (if not the oldest); they stock about everything imaginable for modeling. Much of what they carry is discounted. Very complete website.

VLS
1011 Industrial Court
Moscow Mills, MO 63362 USA
Tel: (636) 356-4888
Fax: (636) 356-4877
www.modelmecca.com
These guys sell everything: models, paints, tools, accessories. Your exclusive source for Minimeca, Elefant, Trakx, Warrior and many others. Ultra comprehensive website.

Bibliography

This is my bibliography. I have adapted a less conventional format that includes a reproduction of each cover and all the pertinent information on the title, as well as my comments. When a retail price was available, I have included it. If one is not, I try to give some indication of the price in my comments. Prices are current to the end of 2003.

What follows is most of the hard and soft cover books on the Tiger I and Tiger II. I have omitted magazine articles because they are so numerous. I need to have room for the rest of the book! Also omitted are smaller booklets, such as the old AFV Profiles, or issues of AFV News. There are also a few miscellaneous titles that, although recent, were so obscure I couldn't find complete information on them. These were, unfortunately, omitted as well. I have grouped the final list by nationality and by publisher.

My overall intent is to provide information on those titles that have the most value for reference when building a Tiger model.

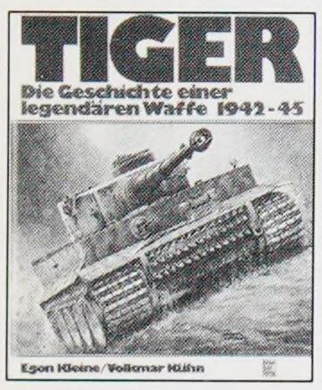
In my comments I often talk about archival photos and vet photos. The distinction here is that veteran photos, not being available to the general public, are much less common. The Tiger is such a popular subject that sometimes the same archival photos get used over and over again. However, a good author and/or publishers will seek out those photos which are unique and I try to point those out below.

During the course of my "modeling career" I have collected a ton of Tiger books. The bottom of the list is a few of the really old titles. Some are left over from when I was a kid and others I acquired for the heck of it. These are all listed as "Moldy Oldies." I'm not sure they have any real reference value, given their age, but I list them just in case you're as geeky as I am.

I know that more than a few of all the listed titles will be hard to find. But, I hope that being armed with the following information will greatly aid in any search.

German Language

Tiger Die Geschichte einer legendaren Waffe 1942-45
Motorbuch Verlag
by Egon Kleine & Volkmar Kuhn
Hard cover, 1987, 334 pages, B&W.
ISBN 3-87943-414-X



Tiger, History of a Legendary Weapon is a good overall view of the Tiger in combat. One of the earliest known sources of good combat photos, some of it has been eclipsed by more current titles from Fedorowicz. Still worth having in your collection, though. Slated to be reprinted in English in 2004.

Der Panzer-Kampfwagen Tiger Und Seine Abarten
Motorbuch Verlag
by Walter J. Spielberger
Hard cover, 1994, 220 pages, B&W.
ISBN 3-87943-456-6

The Tiger Tank and it's Variants. This is the original German language work by Walter J. Spielberger, renowned German armor researcher. Covers both the Tiger I and Tiger II in substantial detail. Contains some very nifty things, such as Tiger II tech manual photos, lots of evaluation shots and factory diagrams.

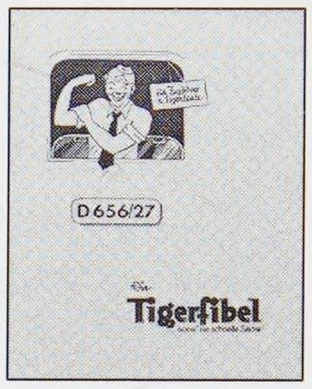
It's not available in English and was never part of the Schiffer translation series. If it can be found, it generally sells for around $60.00.

Der Panzer-Kampfwagen Tiger Und Seine Abarten Mit Tigerfibel
Motorbuch Verlag
by Walter J. Spielberger

Hard cover, 1994, 220 pages, B&W.
ISBN 3-87943-456-6

The Tiger Tank and it's Variants with Tiger Primer. All of the newer editions of the MBV books have a white cover with green stripes. This version contains a complete reprint of the original German manual. Also see below. Around $60.00, if it can be found. More common in Europe.

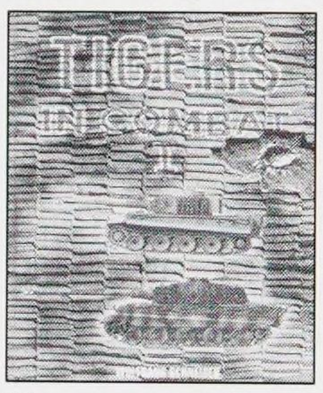
The Tiger Primer... What a fast thing! (Die Tiger Fibel... sooo'ne schnelle Sache!) An authentic English translation of the original manual issued to German WW2 Tiger tank crews in 1943.
Portrayal Press
English translation by Wolf D. Brand
Soft cover, 1997,
174 pages, B&W.
ISBN 0-938242-32-6
$19.99



The subtitle sort of says it all! The translator is an automotive technical writer and, as such, he is uniquely qualified for this job. He was able to retain all of the wit and humor of the original. A really terrific translation, you'll get a hoot out of all the silly poems, verses and fables.

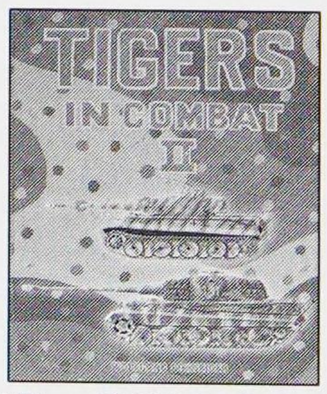
The "schwere" books

Tigers in Combat I
J.J. Fedorowicz Publishing
by Wolfgang Schneider
Hardcover, 1994, 478 pages, 40 pages of color drawings.
ISBN 0-921991-53-3
$95.00
Revised edition was published in 2000.



O.K., I'll say it. This book is the Matrix. I'm not kidding. If you are looking to unravel the history of the Tiger I and II in the field, this is the book for you. Hundreds and hundreds of rare archival and veteran photos pack this substantial volume and the day-by-day unit diaries will kick your ass. There are also diagrams illustrating the exact disposition of units at specific times. The book is organized by unit and the first volume covers all of the Army heavy tank battalions.

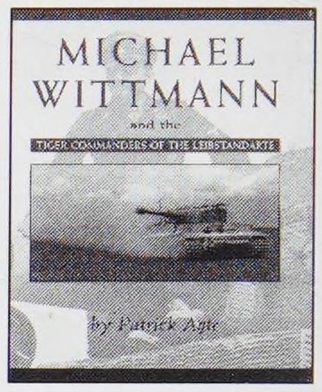
Tigers in Combat II
J.J. Fedorowicz Publishing
by Wolfgang Schneider
Hardcover, 1998, 422 pages, 32 pages of color drawings.
ISBN 0-921991-39-8
$95.00



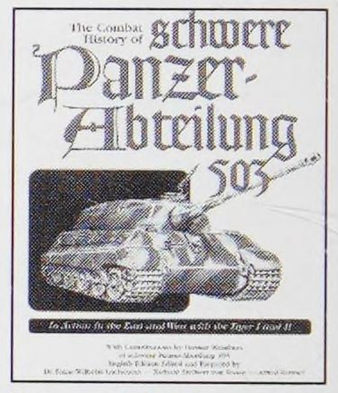
This second volume covers the SS heavy tank battalions and regiments, and all of the special units that fielded the Tiger I and Tiger II. This includes such army units as Großdeutschland and even small units with attached Tigers. Every bit as important as the first volume.

Michael Wittman and the Tiger Commanders of the Leibstandarte
J.J. Fedorowicz Publishing
by Patrick Agte
Hardcover, 1996, 568 pages, B&W throughout.
ISBN 0-921991-30-4
$85.00

A superb treatment on what it takes to command a Tiger unit. Covers all of the structure and organization of the units for the entire time they were equipped with the Tiger. Chock full of vet photos and piled high with first person accounts of actions on both the Eastern and Western front. Certainly the best title on the subject in print today.

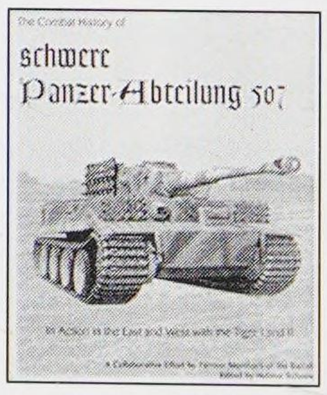


The Combat History of Schwere Panzer-Abteilung 503 In Action in the East and West with the Tiger I and II
J.J. Fedorowicz Publishing
Edited by Dr. Franz-Wilhelm Lochman, Richard Frieherr von Rosen and Alfred Rubbel
Hardcover, 2000, 400 pages, B&W throughout.
ISBN 0-921991-55-X
$80.00



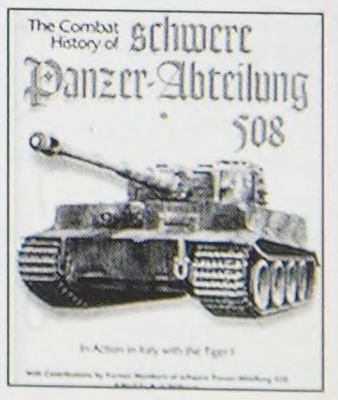
This was the first of several unit histories on the Tiger battalions from Fedorowicz Publishing. It features first-hand accounts of the schwere Panzer-Abteilung 503. Besides an exciting text, this volume also features 190 photo pages with nearly 300 photos, a good percentage of which have never been published before. With contributions by schwere Panzer-Abteilung 503 Veteran's Association.

The Combat History of schwere Panzer-Abteilung 507
J.J. Fedorowicz Publishing
Edited by Helmut Schneider
Hardcover, 2003, 223 pages, B&W and 11 pages of color artwork.
ISBN 0-921991-75-4
$60.00



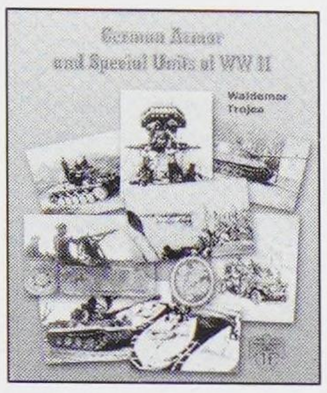
This account of the battalion was written primarily by former members of the unit and features almost all first-hand accounts. In addition, numerous appendices amplifying much of the material have been provided. These include an extensive chronology of the battalion and additional background material on the parent formation of schwere Panzer-Abteilung 507, Panzer-Regiment 4, including the late-war history of elements of the regiment in both Hungary and Italy.

The Combat History of schwere Panzer Abteilung 508 In Action in Italy with the Tiger I
J.J. Fedorowicz Publishing
Edited by Kurt Hirlinger
Hardcover, 2000, 188 pages, B&W and 10 pages of color artwork.



ISBN 0-921991-57-6
$45.00

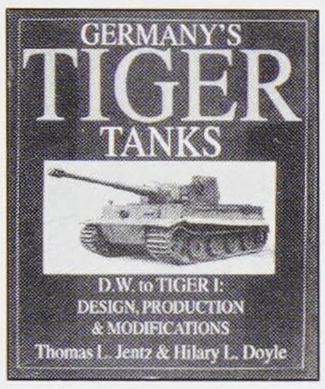
DETAILS THE HEAVY TANK BATTALION 508 AS IT SAW COMBAT IN Italy with the Tiger I. This unit history was also composed by surviving members of the unit. The text is enhanced with all the photographs from the original German edition, plus approximately 100 more from a variety of sources.



German Armor and Special Units of WWII
J.J. Fedorowicz Publishing
by Waldemar Trojca
Hard Cover, 2003, 382 pages, B&W throughout.
ISBN 0-921991-73-8
$83.00

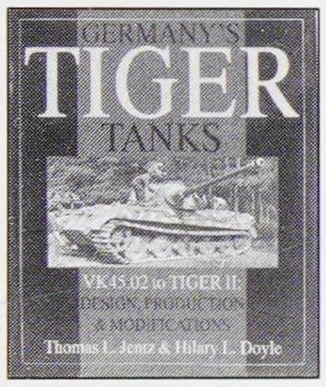
THIS BOOK IS NOT ABOUT TIGERS PER se, but it does contain a super section on the Tiger that is mostly composed of rare and unpublished shots. There is an especially useful sequence on a late Tiger II.

Germany's Tiger Tanks
D.W. to Tiger I: Design, Production & Modifications
Schiffer Publishing Ltd.



by Thomas L. Jentz & Hilary L. Doyle
Hardcover, 2000, 190 pages, B&W throughout.
ISBN 0-7643-1038-0
$49.95

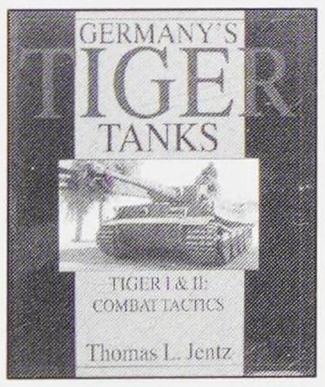
Germany's Tiger Tanks
VK45.02 to Tiger II: Design, Production & Modifications
Schiffer Publishing Ltd.



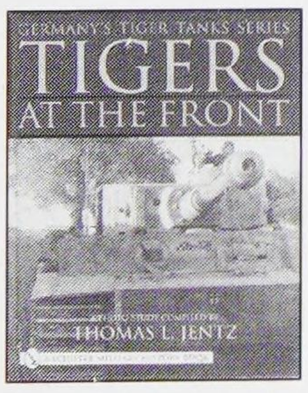
Thomas L. Jentz & Hilary L. Doyle
Hardcover, 1997, 170 pages, B&W throughout.
ISBN 0-7643-0224-8
$49.95

I'VE ALREADY GUSHED OVER THESE two books in the introduction. Suffice it to say that I found them indispensable in creating the models in this book. I think that anyone contemplating building more than one Tiger model should think the same way. Got it?

Germany's Tiger Tanks
Tiger I & II: Combat Tactics
Schiffer Publishing Ltd.
Thomas L. Jentz
Hardcover, 1997, 176 pages, B&W throughout.
ISBN 0-7643-0225-6
$49.95



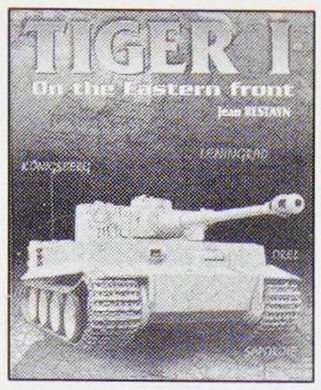
AN INTERESTING COMPILATION OF combat reports from the various Tiger units, lavishly illustrated with interesting archival photos.



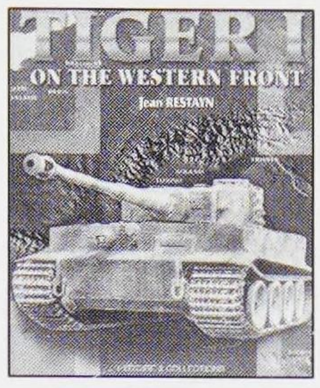
Germany's Tiger Tanks
Tigers at the Front
Schiffer Publishing Ltd.
Thomas L. Jentz
Hardcover, 2001, 208 pages, B&W throughout.
ISBN 0-7643-1339-8
$39.95

BASICALLY, JUST A GIANT PICTURE book of Tigers. Is that so wrong? Organized by front and by Tiger type. A quality title.

Tiger I
On the Eastern Front
Histoire & Collections
by Jean Restayn
Hard cover, 1999, 144 pages, B&W mixed with color drawings.
ISBN 2-908-182-815
$37.95



Tiger I
On The Western Front
Histoire & Collections
by Jean Restayn
Hard cover, 2001, 144 pages, B&W mixed with color drawings.
ISBN 2-913-903-134
$37.95



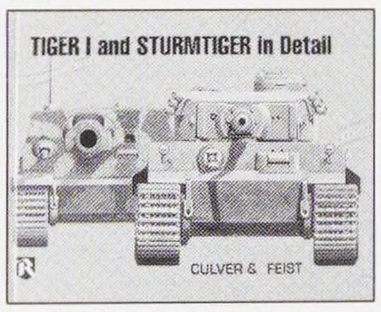
THE AUTHOR HAS ASSEMBLED A truly outstanding collection of photos of the Tiger I and Tiger II from both the German and French archives. All of the chapters are organized by unit, and depict both the army and the SS units that fielded the Tiger. The book is light on text and is generally limited to captions with short introductions in each chapter. The photos are occasionally interspersed with color plates of various vehicles.

Beware that he does make a few mistakes in his research. One such whopper in the second book is his mistaken identification of Tiger "112" (chassis 250012) of s.PzAbt. 501 as the famous Aberdeen Tiger later displayed at Sinsheim. This is actually chassis number 250031, a fact that has been well established for a number of years. Not a catastrophe, but just beware and be aware of other sources.

Tiger I
Ryton Publications
by Uwe Feist & Bruce Culver
Hard cover, 1992, 320 pages, B&W with 10 pages of color drawings.
$88.00

SORT OF A WILD, HARDCOVER romp with numerous combat and factory photos. A good, sound coverage of the development and coverage of the heavy tank battalions, as well. This book was one of the first published in English to provide lavish photo coverage of the Tiger. Beautifully printed and bound, this book is now out of print.

Tiger I and Sturmtiger in Detail
Ryton Publications
by Uwe Feist & Bruce Culver
Hard Cover, 1994, 167 pages, B&W with color.
$45.00



SIMILAR TO THE FIRST TITLE, but with additional new photos concentrating on the many details of the Tiger I. Much of the photography is of contemporary museum vehicles, as well as archival photos. Extensive coverage of the Sturmtiger in the same manner.

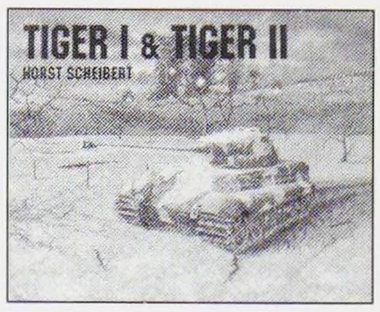
Schwere Panzer in Detail
Ryton Publications
by Bruce Culver & Uwe Feist
Hard cover, 1998, 170 pages, B&W with color.
ISBN 0-9633824-9-7

$45.00

THE TIGER II GETS THE RYTON treatment with a terrific selection of archival and museum photos. The Elefant and Jagdtiger are covered, as well. This book contains a full-color photo of the Aberdeen Tiger II taken years ago when it was still stored inside. Hubba-hubba!

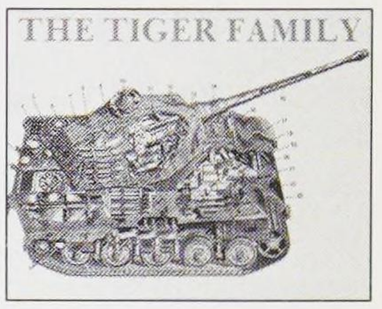
Not so heavy stuff

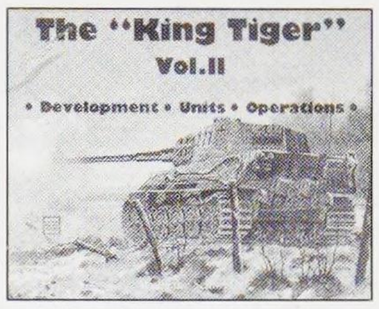
Tiger I
Schiffer Publishing Ltd.
Horst Scheibert
Soft cover, 1991, 48 pages B&W.
ISBN 0-88740-352-2
$9.95



Tiger I & Tiger II
Schiffer Publishing Ltd.
by Horst Scheibert
Soft cover, 1994, 48 pages B&W.
ISBN 0-88740-679-3
$9.95

The Tiger Family
Schiffer Publishing Ltd.
by Horst Scheibert
Soft cover, 1994, 48 pages, B&W.
ISBN 0-88740-187-2
$9.95



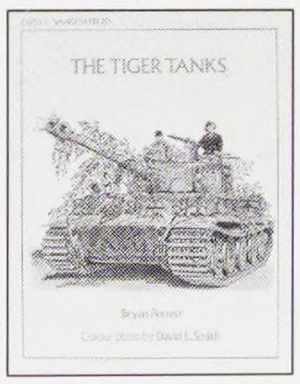


The King Tiger Tank
Schiffer Publishing Ltd.
by Horst Scheibert
Soft cover, 1989, 48 pages, B&W.
ISBN 0-88740-185-6
$9.95

The "King Tiger" Vol. II
Schiffer Publishing Ltd.
by Wolfgang Schneider
Soft cover, 1990, 48 pages B&W.
ISBN 0-88740-287-9
$9.95

ALL THE ABOVE LISTED BOOKS ARE SMALL, SOFT COVER BOOKLETS in the style of the Squadron "in action" series. All of them contain an interesting selection of archival photos. Although nothing contained in them is rare, they are a good way to build a sound collection on a budget.

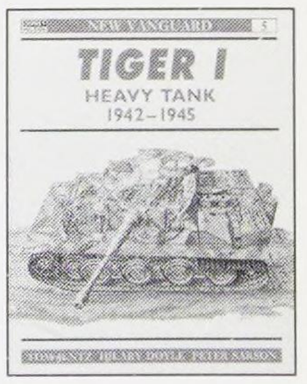
The Tiger Tanks
Vanguard 20
Osprey Publishing Ltd.



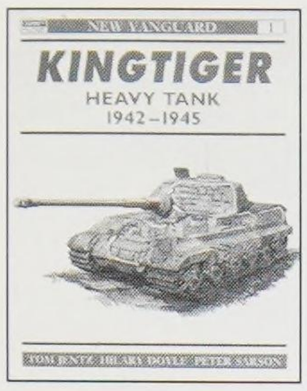
by Bryan Perrett, color plates by David E. Smith
Soft cover, 1981, 40 pages, eight pages of color.
ISBN 0-85045-389-5

THIS WAS THE FIRST OF THE OSPREY titles on the Tiger and the illustrations are especially well done. Contains a couple of nice paintings of the interior of a Tiger I and some uniform stuff, as well. Out of print.

Tiger I
Heavy Tank 1942-1945
New Vanguard 5
Osprey Publishing Ltd.
Tom Jentz, Hilary Doyle & Peter Sarson
Soft cover, 1993, 48 pages, eight pages of color plates.
ISBN 1-85532-337-0
$14.95



King Tiger
Heavy Tank 1942-1945
New Vanguard 1
Osprey Publishing Ltd.
by Tom Jentz, Hilary Doyle & Peter Sarson
Soft cover, 1993, 48 pages, B&W and eight pages of color plates.
ISBN 1-85532-282-X
$14.95

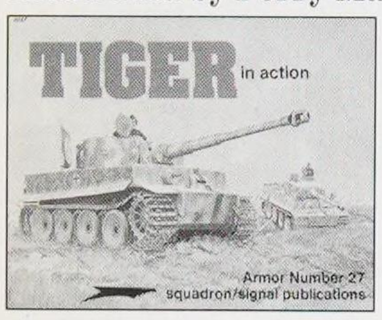


IT TOOK THREE GUYS TO WRITE these books? Well, actually the books are sort of like "Jentz-Doyle Lite." The books are each basically synopses of the larger works published by Schiffer. The drawings are in 1/76th scale instead of 1/35th. Color plates by Peter Sarson (not found in the larger works) round out the mix. An excellent choice for the budget minded.

Panzerkampfwagen VI Tiger
Osprey Modelling Manuals #13
Osprey Publishing Ltd.
Donald Sommerville,
Rodrigo Hernandez Cabos &
John Prigent

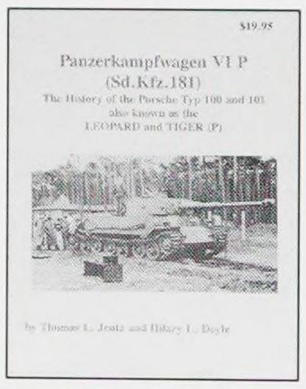
Soft cover, 2001, 64 pages, full color.
ISBN 1-84176-206-7
$14.95
ONE OF THE MANY MODELING MANUals flushed out by Osprey a few years ago, this one is as good as any of the others. Lots of color photos, but you're not getting even remotely close to the whole story in just 64 pages.

Tiger in Action
Armour Number 27
Squadron/Signal Publications
by Bruce Culver, color by Don Greer, illustrated by Perry Manley



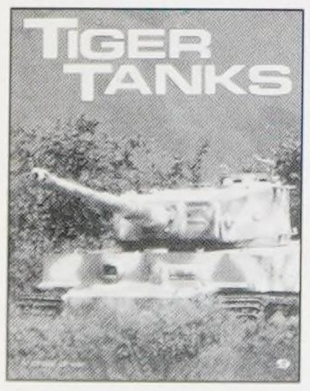
Soft cover, 1989, 50 pages, two pages of color drawings.
ISBN 0-89747-230-6
$9.95
AN OLDIE, BUT A GOODIE. Excellent text coverage and an amazingly good photo selection for such a brief title. Also contains color plates and scale drawings.

Panzerkampfwagen VI P (Sd.Kfz.181)
The History of the Porsche Typ 100 and 101 also know as the Leopard and Tiger (P)
Darlington Productions Inc.
Thomas L. Jentz &
Hilary L. Doyle



Soft cover, 1999, 60 pages, B&W throughout.
ISBN 1-892848-03-1
$19.95
A REALLY OUTSTANDING TELLING OF the history of the Tiger (P). Tremendous, rare photos of the vehicle under evaluation and in the field. The only accurate scale drawings of the fielded vehicle in print right now.

Tiger Tanks
Motorbooks International
by Michael Green



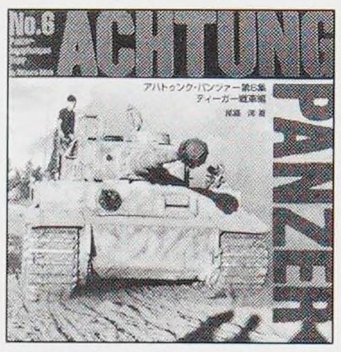
Soft cover, 1995, 128 pages, B&W mixed with color.
ISBN 0-87938-954-0
$19.95
A SOMEWHAT FRESH APPROACH TO the subject, this book delves into many of the more interesting technical aspects of both vehicles. Although it's not an overwhelmingly illustrated title, it does contain several rare photos taken of the recovery of the Tiger II that now resides at Ft. Knox.

I think I'm turning Japanese

Der Panzerkampfwagen Tiger an der Front Bildband und Tiger Fibel im Bild
Dai Nippon Kaiga Co. Ltd.
by Tomioka Yoshikatsu & Kobayashi Motofumi
Soft cover, 1998, 160 pages, B&W throughout.
ISBN 4-499-22688-0
$29.95

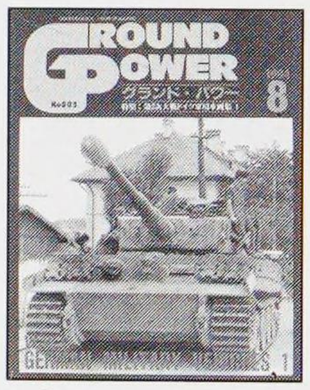
THE TIGER TANK ON THE FRONT Photo Book and Tiger Primer Illustrated. So, if it's Japanese, why is the title in German? Those crazy guys! This is a handy little soft cover book with a substantial number of rare photos taken from the French National Archives. Japanese and English captions. Also contains a comic book style depiction of the maintenance and operation of the various Tiger I systems. This is kinda cool and it has English captions, too. Dai Nippon Kaiga is actually the folks at Art Box, publishers of *Armour Modelling* magazine. Like all titles from them, this one is a beauty. A very useful reference source.

Panzer Kampfwagen Tiger
Achtung Panzer No. 6
Dai Nippon Kaiga Co. Ltd.
by Mitsuru Bitoh
Soft cover, 156 pages, B&W with color.
ISBN 4-499-22706-2
$34.95

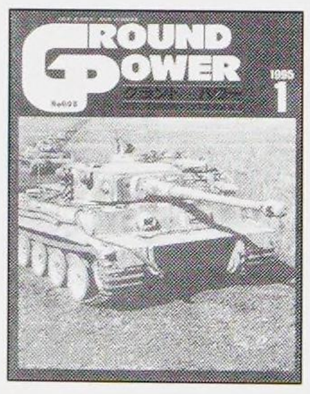


ONE OF A LONG RUNNING SERIES of books exploring the minutest details of the Tiger I and Tiger II. Hundreds and hundreds of detailed drawings of all the bits and bobs on the Tiger I, II, Sturmtiger, Elefant, Ferdinand and Jagdtiger. Also contains many rare WW2 photos and museum shots. A truly awesome work. This book pulls down my pants and humiliates me...

Ground Power
No 003 1994 #8
W.W.II German Military Vehicles 1
Delta Publishing Co. Ltd.
Soft cover, 1994, 156 pages, B&W and a few color pages
$29.95



GROUND POWER IS THE FORMAT THAT replaced Tank Magazine in 1994. The new format is just photos with several subjects per volume. This particular issue has a very short article on the Tiger I. It's really not worth looking for.



Ground Power
No 008 1995 #1
W.W.II German Military Vehicles 1
Delta Publishing Co. Ltd.
Soft cover, 1995, 156 pages, B&W throughout.
$29.95
FIFTEEN PAGES ON THE TIGER I.

Ground Power
No 025 1996 #6
PzKpfw VI Tiger (1)
Delta Publishing Co. Ltd.
Soft cover, 1996, 156 pages, B&W and a few color pages.
$29.95

ENTIRELY DEVOTED TO THE TIGER I with a solid selection of photos broken down by unit. Some of them are rare. Color plates and scale drawings.

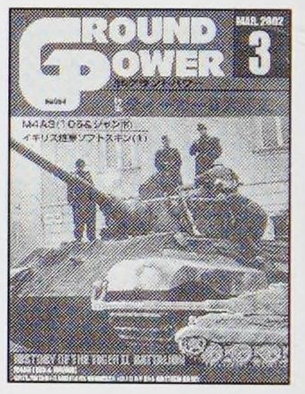
Ground Power
No 026 1996 #7
PzKpfw VI Tiger (2)
Delta Publishing Co. Ltd.

Soft cover, 1996, 156 pages, B&W with color plates.
$29.95
ALSO ENTIRELY DEVOTED TO THE TIGER I, this is the original source for the drawings that appear in this book. However, there are numerous inaccuracies in these drawings that have been corrected here. Color plates.

Ground Power
No 049 1998 #6
Tigers of s.PzAbt.503
Delta Publishing Co. Ltd.
Soft cover, 1998, 156 pages, B&W and a few color pages.
$29.95
ELEVEN PAGES CONTAINING MORE OR less the same photos of the 503 that appear in *Tiger an der Front Bildband.* Take a pass.

Ground Power
No 053 1998 #10
Tiger II in Detail
Delta Publishing Co. Ltd.
Soft cover, 1998, 156 pages, B&W and a few color pages.
$29.95
THIRTY-TWO PAGE ARTICLE ON THE Tiger II with plentiful museum photos and dozens of line drawings, plus scale plans. Check please!

Ground Power
No 094 2002 #3
History of the Tiger II Battalion
Delta Publishing Co. Ltd.
Soft cover, 2002, 156 pages, B&W and a few color pages.
$29.95



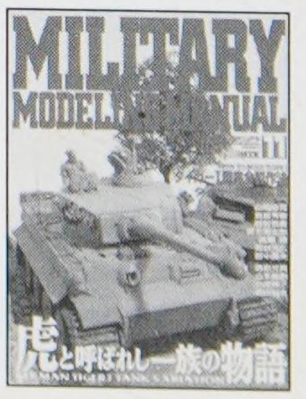
EIGHTY PAGES OF COVERAGE ON THE Tiger II concentrating on its use by the 503, including rare vet photos and color plates. Nice.

Ground Power
No 095 2002 #4
Tiger II Illustrated
Delta Publishing Co. Ltd.
Soft cover, 2002, 156 pages, B&W and a few color pages.
$29.95
ANOTHER EIGHTY-THREE PAGES ON THE Tiger II's of the 503, plus drawings. Also very nice.

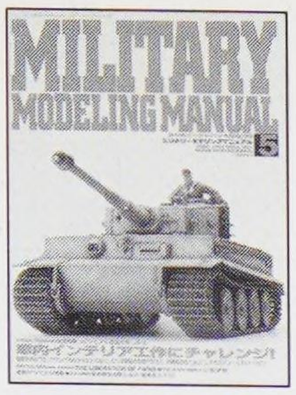
Sturm & Drang-1
TIGER
Tank Magazine Special Issue
June '90
SENSHA-MAGAZINE Co., Ltd.
Soft cover, 1990, 156 pages, B&W with color plates.

THIS ONE GOES WAY BACK AND IT caused quite a stir when it was released. Much of what it contains was rare upon its release. A great compilation of combat photos, much of it can now found in other, newer titles. Out of print.

German Tiger I
Tank Variation
Military Modeling Manual Vol. 11
by Koichi Sato
Soft cover, 1998, 102 pages, full color.
ISBN 4-89425-194-9

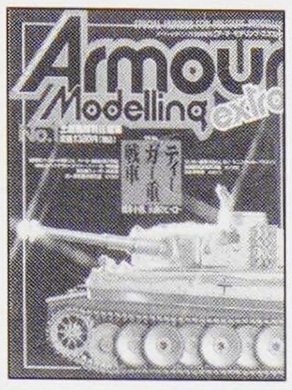


ONE OF SEVERAL ALL-JAPANESE LAN-



guage publications from *Hobby Japan* to cover the Tiger. *Hobby Japan* is a large hobby magazine like *Model Graphix*. The photos in all the volumes are super high quality and detail building various Tigers step-by-step. Also see Vols. 3, 5 and 13. Very tough to find and generally out of print.

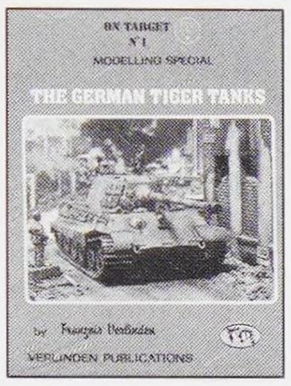
Armor Modelling
Armour Modelling
Extra No. 1
Dai Nippon Kaiga Co. Ltd.
Soft cover, 2001, 120 pages,
B&W mixed with color.
$12.95



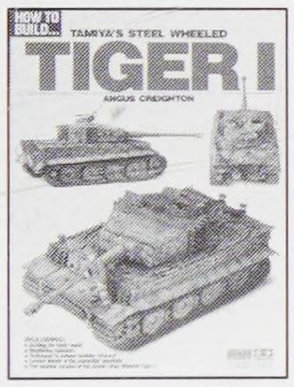
THIS SPECIAL ISSUE OF *ARMOUR Modelling* magazine is sort of an ad hoc modeler's guide in the guise of a magazine. It's worth looking for if you like *Armor Modelling*. Scant on English, it still has a lot of information. The gold Tiger I model on the cover is pretty cool.

Other Titles

The German Tiger Tanks
On Target No. 1
Modelling Special
Verlinden Publications
by Francois Verlinden
Soft cover, 1984, 56 pages,
B&W mixed with color.
ISBN 90-70932-02-4
$11.95



THE VERY FIRST ATTEMPT THAT I know of to do a modeler's guide on the Tiger. Francois discusses his whole bag of tricks while building several Tiger I and II models. Out of print.



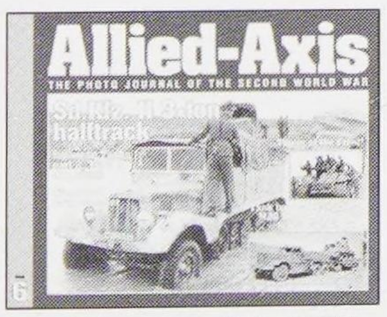
How to Build Tamiya's Steel Wheeled Tiger I
ADH Publishing
by Angus Creighton
Soft cover, 2001, 57 pages,
full color.
$19.99

A VERY NICE, FULL COLOR MODELING treatment from England. All the models are shown in a scenic diorama setting. Angus Creighton's work is some of the best that has appeared in the British modeling press. This is worth a good look.

Tiger I Ausf. E (Sd.Kfz.181)
From the Saumur Tank
Museum collection
Armor in detail #1
Verlinden Productions
by Willy Peeters, photos by
Alan Hanel & D. Sadok
Soft cover, 1993,
24 pages full color.
$17.95

PLENTIFUL DETAIL AND OVERALL SHOTS OF THE SAUMUR STEEL-wheeled Tiger, all in full color.

Allied-Axis #6, Tigers at the Front
Ampersand Publishing
Soft cover, 2002, 96 pages, B&W.
$15.95



DURING THE COURSE OF THIS project I found several photos that I thought were of exceptional quality, either for the graphic value of the image, or because of what the image depicted. These were rounded up and published in an article in the above listed issue. A few are also in this book, albeit much smaller.

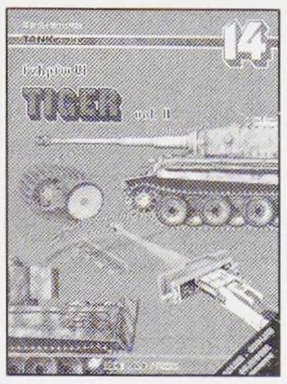
The Polish Stuff

PzKpfw VI TIGER vol. I
AJ Press, TANK POWER 13
by Tadeusz Melleman

Soft cover, 2002, 108 pages,
B&W with 11 pages in color.
$29.99

POLISH AND ENGLISH TEXT. THIS VOLume describes development of the Tiger tank from the first projects on with numerous photos. About half the book is composed of excellent scale drawings of the Tiger I. Color plates.

PzKpfw VI TIGER vol. II
AJ Press, TANK POWER 14
by Tadeusz Melleman
Soft cover, 2002, 108 pages,
B&W, 25 pages in color.
$29.99

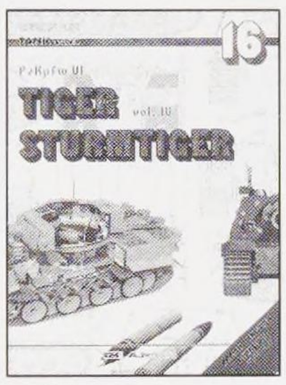


POLISH AND ENGLISH TEXT. Continuation of the Tiger story with similar contents. This is the first volume that offers the wonderfully rendered 3D drawings of various Tiger components. Color plates.

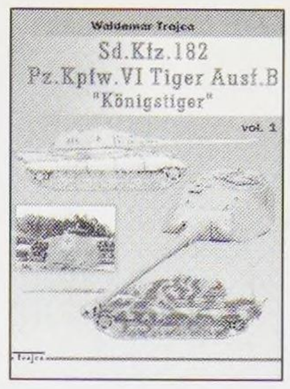
PzKpfw VI TIGER vol. III
AJ Press, TANK POWER 15
by Tadeusz Melleman
Soft cover, 2003, 120 pages,
B&W, 32 pages in color.
$29.99

POLISH AND ENGLISH TEXT. Continuation of the Tiger story with similar contents. Concentrated on the steel-wheeled versions. More scary 3D stuff, this time the turret and its interior. Color plates.

PzKpfw VI TIGER vol. IV
AJ Press, TANK POWER 16
by Tadeusz Melleman
Soft cover, 2003, 112 pages,
70 B&W, 34 pages in color.
$29.99



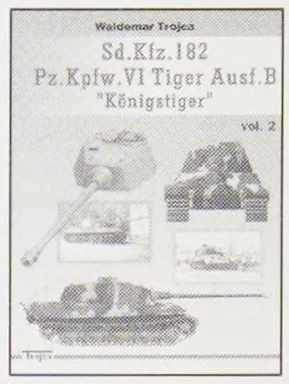
POLISH AND ENGLISH TEXT. CONTINUation of the Tiger story with similar contents. Concentrated on the Sturmtiger. Scary 3D stuff report: ammo and rockets. Awesome! Color plates.



Sd.Kfz.182 Pz.Kpfw. VI Tiger Ausf. B "Konigstiger" Vol. 1
Model Hobby
by Waldemar Trojca
Soft Cover, 2003, 144 pages,
B&W with color plates.
$32.99

ALMOST THE IDENTICAL TREATMENT AS the above titles, but on the Tiger II. This first title is kinda odd, as it is mostly composed of line drawings. Color plates and 3D renderings of the "Porsche" turret.

Sd.Kfz.182 Pz.Kpfw. VI Tiger Ausf. B "Konigstiger" Vol. 2
Model Hobby
by Waldemar Trojca
Soft Cover, 2003, 144 pages,
B&W with color plates.
$32.99

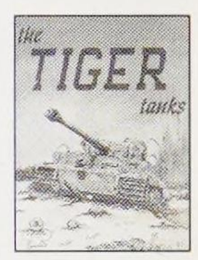


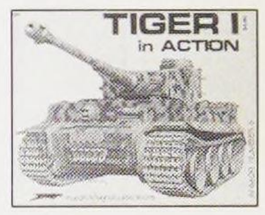
THIS ONE UPS THE ANTE A BIT WITH 95 photographs and only 17 pages of 1/35 scale drawings. 26 pages of full color 3D drawings.

Moldy Oldies

Panzerkampfwagen IV
Tiger I and II "Konigstiger"
Aero Publishers Inc.
by Walter J. Spielberger
& Uwe Feist
Soft cover, 1977, 76 pages B&W,
four pages of color drawings
$4.95 (a long time ago)

Tiger I in Action
Armour Number 8
Squadron/Signal Publications
by Norm E. Harms, illustrations by
Uwe Feist
Soft cover, 1973, 50 pages, two pages of color drawings.
ISBN 0-89747-041-9
$4.95 (a really long time ago)





The Tiger Tanks
Armor Series 1
Aero Publishers Inc.
by Uwe Feist, Edward T. Maloney
Soft cover, 1966, 52 pages,
four pages of color drawings.
$3.00 (a really, really long time ago)

Known Chassis Numbers

The following was compiled from a number of sources, primary among them were the *Tigers in Combat* and Jentz volumes. The Jentz references are noted, either in the column, or in a footnote at the end. I was also assisted by a number of individuals who provided their own information. I can't vouch for the absolute accuracy of all of this, as I do not know the source of the original information. Some of the numbers are taken from museum and monument tanks and these are considered accurate.

I have used this information to guide me in selecting the time frame for a given model. It might not be carved in stone, but it's a good start!

Fgst. Nr.	Prod. Date	Disposition
Tiger I		
250001	June 1942	Kummersdorf
250002	August 1942	s.PzAbt. 502
250003	August 1942	s.PzAbt. 502 [1]
250004	August 1942	s.PzAbt. 502 [2]
250005	August 1942	s.PzAbt. 502 [3]
250006	August 1942	s.PzAbt. 502 [4]
250007	August 1942	s.PzAbt. 502
250008	August 1942	s.PzAbt. 502
250009	August 1942	s.PzAbt. 502 [5]
250010	September 1942	s.PzAbt. 502 [6]
250011	September 1942	s.PzAbt. 501
250012	September 1942	s.PzAbt. 501
250013	October 1942	s.PzAbt. 501
250014	October 1942	s.PzAbt. 501
250015	October 1942	s.PzAbt. 501
250016	October 1942	s.PzAbt. 501
250017	October 1942	s.PzAbt. 501
250018	October 1942	s.PzAbt. 501
250019	October 1942	s.PzAbt. 501
250020	October 1942	s.PzAbt. 501
250021	October 1942	s.PzAbt. 501
250022	October 1942	s.PzAbt. 501
250023	November 1942	s.PzAbt. 501
250024	November 1942	s.PzAbt. 501
250025	November 1942	s.PzAbt. 501
250026	November 1942	s.PzAbt. 501
250027	November 1942	s.PzAbt. 501
250028	November 1942	s.PzAbt. 501
250029	November 1942	s.PzAbt. 501
250030	November 1942	s.PzAbt. 501
250031	November 1942	s.PzAbt. 501 [7]
250032	November 1942	s.PzAbt. 501
250033	November 1942	s.PzAbt. 501
250043	December 1942	Sturmtiger [8]
250045	December 1942	s.PzAbt. 503
250046	December 1942	s.PzAbt. 503
250048	December 1942	Wa Prüf 6
250049	December 1942	SS Pz.Reg. 2
250050	December 1942	s.PzAbt. 503
250053	December 1942	SS Pz.Reg. 1
250055	December 1942	Jentz P. 57
250059	December 1942	s.PzAbt. 501
250065	December 1942	s.PzAbt. 503
250066	December 1942	SS Pz.Reg. 2
250067	December 1942	SS Pz.Reg. 2
250068	December 1942	SS Pz.Reg. 2
250071	December 1942	SS Pz.Reg. 1
250072	December 1942	SS Pz.Reg. 1
250073	December 1942	SS Pz.Reg. 1
250075	December 1942	SS Pz.Reg. 1
250076	December 1942	SS Pz.Reg. 2
250077	January 1943	SS Pz.Reg. 2
250078	January 1943	SS Pz.Reg. 2
250079	January 1943	SS Pz.Reg. 3
250080	January 1943	SS Pz.Reg. 3
250082	January 1943	Großdeutschland
250083	January 1943	SS Pz.Reg. 2
250084	January 1943	SS Pz.Reg. 2
250085	January 1943	SS Pz.Reg. 2
250086	January 1943	SS Pz.Reg. 2
250087	January 1943	Großdeutschland
250088	January 1943	SS Pz.Reg. 2
250089	January 1943	SS Pz.Reg. 3
250090	January 1943	Großdeutschland
250092	January 1943	SS Pz.Reg. 2
250094	January 1943	SS Pz.Reg. 3
250095	January 1943	SS Pz.Reg. 3
250096	January 1943	SS Pz.Reg. 3
250098	January 1943	Großdeutschland
250099	January 1943	Großdeutschland
250100	January 1943	Großdeutschland
250101	January 1943	SS Pz.Reg. 3
250102	January 1943	SS Pz.Reg. 3
250103	January 1943	SS Pz.Reg. 3
250104	January 1943	Großdeutschland
250106	January 1943	Großdeutschland
250108	January 1943	Großdeutschland
250109	January 1943	s.PzAbt. 504
250110	January 1943	s.PzAbt. 504
250111	January 1943	s.PzAbt. 504
250112	February 1943	s.PzAbt. 504
250117	February 1943	s.PzAbt. 504
250122	February 1943	s.PzAbt. 504 [9]
250123	February 1943	s.PzAbt. 504
250124	February 1943	s.PzAbt. 504
250125	February 1943	s.PzAbt. 504
250126	February 1943	s.PzAbt. 504
250137	February 1943	s.PzAbt. 505
250139	February 1943	s.PzAbt. 505
250143	February 1943	s.PzAbt. 505
250152	March 1943	SS Pz.Reg. 3
250154	March 1943	s.PzAbt. 505
250157	March 1943	s.PzAbt. 505
250159	March 1943	Jentz P. 102
250164	March 1943	s.PzAbt. 503
250174	March 1943	Sturmtiger [10]
250188	April 1943	s.PzAbt. 503
250194	April 1943	SS Pz.Reg. 1
250195	April 1943	Großdeutschland
250196	April 1943	s.PzAbt. 502
250199	April 1943	Großdeutschland
250200	April 1943	s.PzAbt. 504
250201	April 1943	SS Pz.Reg. 2
250204	April 1943	s.PzAbt. 504
250206	April 1943	s.PzAbt. 504
250207	April 1943	s.PzAbt. 504
250208	April 1943	s.PzAbt. 504
250210	April 1943	SS Pz.Reg. 1
250211	April 1943	SS Pz.Reg. 3
250212	April 1943	SS Pz.Reg. 3
250213	April 1943	SS Pz.Reg. 2
250214	April 1943	SS Pz.Reg. 1
250215	April 1943	Großdeutschland
250216	April 1943	SS Pz.Reg. 3
250217	April 1943	SS Pz.Reg. 2
250218	April 1943	Großdeutschland
250219	April 1943	SS Pz.Reg. 2
250220	April 1943	SS Pz.Reg. 2
250222	April 1943	s.PzAbt. 502
250223	April 1943	SS Pz.Reg. 1
250224	April 1943	SS Pz.Reg. 3
250226	April 1943	SS Pz.Reg. 1
250228	April 1943	Großdeutschland
250229	April 1943	Großdeutschland
250231	May 1943	Großdeutschland
250232	May 1943	s.PzAbt. 502
250234	May 1943	s.PzAbt. 502
250235	May 1943	s.PzAbt. 502
250236	May 1943	Großdeutschland
250238	May 1943	JENTZ P. 116
250242	May 1943	s.PzAbt. 502
250246	May 1943	s.PzAbt. 502
250247	May 1943	Großdeutschland
250255	May 1943	SS s.PzAbt. 101 [11]
250256	May 1943	s.Pz.Abt. 502
250259	May 1943	s.PzAbt. 502
250263	May 1943	s.PzAbt. 502
250268	May 1943	s.PzAbt. 502
250270	May 1943	SS s.PzAbt. 101
250272	May 1943	s.PzAbt. 505
250279	May 1943	Großdeutschland
250295	June 1943	Großdeutschland
250304	June 1943	s.PzAbt. 505
250323	June 1943	SS s.PzAbt. 101
250327	June 1943	Sturmtiger
250339	June 1943	s.PzAbt. 504
250344	July 1943	SS s.PzAbt. 101
250345	July 1943	SS s.PzAbt. 101
250348	July 1943	SS s.PzAbt. 101
250350	July 1943	SS s.PzAbt. 101
250351	July 1943	SS s.PzAbt. 101
250354	July 1943	SS s.PzAbt. 101
250355	July 1943	SS s.PzAbt. 101
250357	July 1943	SS s.PzAbt. 101
250359	July 1943	SS s.PzAbt. 101
250362	July 1943	SS s.PzAbt. 101
250368	July 1943	Großdeutschland
250372	July 1943	SS s.PzAbt. 101
250377	July 1943	SS s.PzAbt. 101
250379	July 1943	Großdeutschland
250380	July 1943	Großdeutschland
250381	July 1943	Großdeutschland
250383	July 1943	Großdeutschland
250386	July 1943	s.PzAbt. 503
250427	August 1943	Now located at Kubinka
250454	August 1943	s.PzAbt. 509
250455	August 1943	SS s.PzAbt. 101
250456	August 1943	s.PzAbt. 509
250491	September 1943	s.PzAbt. 505
250494	September 1943	s.PzAbt. 505
250496	September 1943	s.PzAbt. 505
250502	September 1943	Großdeutschland [12]
250506	September 1943	Großdeutschland [12]
250515	September 1943	Großdeutschland [12]
250544	September 1943	s.PzAbt. 509
250569	October 1943	s.PzAbt. 509
250570	October 1943	s.PzAbt. 505
250575	October 1943	s.PzAbt. 509
250603	November 1943	s.PzAbt. 507
250608	November 1943	s.PzAbt. 508
250610	November 1943	s.PzAbt. 508
250615	November 1943	s.PzAbt. 508
250617	November 1943	SS Pz.Reg. 2
250618	November 1943	s.PzAbt. 508
250625	November 1943	s.PzAbt. 506
250626	November 1943	SS Pz.Reg. 2
250632	November 1943	s.PzAbt. 508
250636	November 1943	s.PzAbt. 508
250665	December 1943	s.PzAbt. 508
250678	December 1943	SS Pz.Reg. 2
250682	December 1943	s.PzAbt. 507
250686	December 1943	s.PzAbt. 508
250687	December 1943	s.PzAbt. 502
250688	December 1943	s.PzAbt. 502
250693	December 1943	s.PzAbt. 502
250700	December 1943	s.PzAbt. 502
250701	December 1943	s.PzAbt. 502
250702	December 1943	s.PzAbt. 502
250704	December 1943	s.PzAbt. 502
250705	December 1943	s.PzAbt. 502
250706	December 1943	s.PzAbt. 502
250708	December 1943	s.PzAbt. 502
250712	December 1943	s.PzAbt. 502
250713	December 1943	s.PzAbt. 502
250714	December 1943	s.PzAbt. 502
250715	December 1943	s.PzAbt. 502
250719	December 1943	s.PzAbt. 502
250722	December 1943	SS Pz.Reg. 2
250729	January 1944	SS Pz.Reg. 2
250732	January 1944	s.PzAbt. 507
250733	January 1944	s.PzAbt. 507
250734	January 1944	s.PzAbt. 507
250753	January 1944	s.PzAbt. 502
250755	January 1944	s.PzAbt. 502
250756	January 1944	s.PzAbt. 502
250757	January 1944	s.PzAbt. 502
250759	January 1944	s.PzAbt. 502
250762	January 1944	s.PzAbt. 509
250779	January 1944	s.PzAbt. 509
250794	January 1944	s.PzAbt. 509
250803	January 1944	s.PzAbt. 509
250822	February 1944	s.PzAbt. 507
250829	February 1944	s.PzAbt. 505
250870	February 1944	s.PzAbt. 503
250871	February 1944	s.PzAbt. 507
250872	February 1944	s.PzAbt. 503
250875	February 1944	s.PzAbt. 507
250877	February 1944	s.PzAbt. 503
250878	February 1944	s.PzAbt. 503
250879	February 1944	s.PzAbt. 503
250881	February 1944	s.PzAbt. 503
250882	February 1944	s.PzAbt. 503
250883	February 1944	s.PzAbt. 503
250885	February 1944	s.PzAbt. 503
250886	February 1944	s.PzAbt. 503
250888	February 1944	s.PzAbt. 503
250889	February 1944	s.PzAbt. 503
250890	February 1944	s.PzAbt. 503
250891	February 1944	s.PzAbt. 503
250892	February 1944	s.PzAbt. 503
250893	February 1944	s.PzAbt. 503
250894	February 1944	s.PzAbt. 503
250895	February 1944	s.PzAbt. 503
250896	February 1944	s.PzAbt. 503
250901	February 1944	s.PzAbt. 504
250903	February 1944	s.PzAbt. 503
250914	March 1944	s.PzAbt. 503
250915	March 1944	s.PzAbt. 503
250917	March 1944	s.PzAbt. 503
250922	March 1944	s.PzAbt. 507
250923	March 1944	s.PzAbt. 507
250925	March 1944	s.PzAbt. 503
250926	March 1944	s.PzAbt. 507
250931	March 1944	s.PzAbt. 507
250933	March 1944	s.PzAbt. 503
250934	March 1944	s.PzAbt. 507
250938	March 1944	s.PzAbt. 507
250973	March 1944	s.PzAbt. 507
250974	March 1944	s.PzAbt. 507
250979	March 1944	s.PzAbt. 507
250980	March 1944	s.PzAbt. 505
250984	March 1944	s.PzAbt. 507
250986	March 1944	s.PzAbt. 507
250987	March 1944	s.PzAbt. 507
250988	March 1944	s.PzAbt. 507
250994	March 1944	s.PzAbt. 507
250995	March 1944	s.PzAbt. 507
250997	March 1944	s.PzAbt. 505
250998	April 1944	s.PzAbt. 505
250999	April 1944	s.PzAbt. 507
251003	April 1944	s.PzAbt. 507
251005	April 1944	s.PzAbt. 505
251008	April 1944	s.PzAbt. 505
251009	April 1944	s.PzAbt. 505
251012	April 1944	s.PzAbt. 505
251014	April 1944	s.PzAbt. 505
251019	April 1944	s.PzAbt. 505
251026	April 1944	s.PzAbt. 507
251041	April 1944	s.PzAbt. 505
251057	April 1944	s.PzAbt. 505
251066	April 1944	s.PzAbt. 505
251068	April 1944	s.PzAbt. 505
251072	April 1944	s.PzAbt. 505
251079	April 1944	s.PzAbt. 505
251083	April 1944	s.PzAbt. 505
251086	April 1944	s.PzAbt. 505
251092	April 1944	s.PzAbt. 505
251098	April 1944	s.PzAbt. 505
251101	April 1944	s.PzAbt. 505
251113	May 1944	SS s.PzAbt. 102
251114	May 1944	SS s.PzAbt. 102 [13]
251214	June 1944	s.PzAbt. 503
Tiger II		
280001	January 1944	Panzer Lehr (PzKp. 316 (Fkl))
280002	January 1944	Panzer Lehr (PzKp. 316 (Fkl))
280003	January 1944	Panzer Lehr (PzKp. 316 (Fkl))
280004	February 1944	Panzer Lehr (PzKp. 316 (Fkl))
280005	February 1944	Panzer Lehr (PzKp. 316 (Fkl))
280006	February 1944	Kummersdorf
280008	February 1944	Kummersdorf
280009	March 1944	Wa Prüf 6
280012	March 1944	Wa Prüf 6
280020	April 1944	s.PzAbt. 503
280021	May 1944	s.PzAbt. 503
280022	May 1944	s.PzAbt. 503
280023	May 1944	s.PzAbt. 503
280030	May 1944	s.PzAbt. 503
280031	May 1944	s.PzAbt. 503 [14]
280035	May 1944	s.PzAbt. 503
280092	July 1944	SS s.PzAbt. 101
280093	July 1944	SS s.PzAbt. 101
280100	July 1944	PzErsAbr. 500 [15]
280101	July 1944	SS s.PzAbt. 101 [16]
280103	July 1944	SS s.PzAbt. 101
280105	July 1944	SS s.PzAbt. 101
280112	July 1944	SS s.PzAbt. 501
280215	September 1944	s.PzAbt. 506 [17]
280243	September 1944	s.PzAbt. 509 [18]
280260	September 1944	s.PzAbt. 509
280273	October 1944	SS s.PzAbt. 501 [19]
280278	October 1944	SS s.PzAbt. 501
280288	October 1944	SS s.PzAbt. 501
280302	November 1944	SS s.PzAbt. 501
280317	November 1944	s.PzAbt. 506
280318	November 1944	s.PzAbt. 506
280319	November 1944	s.PzAbt. 506
280354	December 1944	Wa Prüf 6 [20]
280356	December 1944	Wa Prüf 6 [21]
280404	January 1945	Wa Prüf 6 [22]

1. Unable to retrieve, blown up January 1943
2. Lost in January 1943, radiator failure
3. Hit in engine compartment, burnt out, January 1943
4. Transmission failure, blown up January 1943
5. Stuck in bog. This was the first Tiger I recovered by the Russians (Tactical #100)
6. Knocked out by a T34, 1-43
7. Aberdeen Tiger I
8. Now located at Kubinka
9. Bovington Tiger I
10. Now located at Munster
11. Originally sold to the Japanese, but later diverted to this unit.
12. Reportedly captured by the Russians before delivery
13. Now located at Saumur
14. Jentz P. 80
15. Jentz P. 109
16. Now located at the Panzer Museum
17. Now located at Thun, Switzerland
18. Tactical number 332, Now located at Ft. Knox
19. Now on outdoor display at La Gleize, tactical number 213?
20. Jentz P. 141
21. Jentz P. 141
22. Jentz P. 128

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